The Brown Dwarf Kinematics Project (BDKP) I. Proper Motions and Tangential Velocities for a Large Sample of Late-type M, L and T Dwarfs

Jacqueline K. Faherty[1,3], Adam J. Burgasser[2], Kelle L. Cruz[4,6], Michael M. Shara[1], Frederick M. Walter[3], and Christopher R. Gelino[5]

ABSTRACT

We report proper motion measurements for 427 late-type M, L and T dwarfs, 332 of which have been measured for the first time. Combining these new proper motions with previously published measurements yields a sample of 841 M7-T8 dwarfs. We combined parallax measurements or calculated spectrophotometric distances and computed tangential velocities for the entire sample. We find that kinematics for the full and volume-limited 20 pc samples are consistent with those expected for the Galactic thin disk, with no significant differences between late-type M, L, and T dwarfs. Applying an age-velocity relation we conclude that the average kinematic age of the 20 pc sample of ultracool dwarfs is older than recent kinematic estimates and more consistent with age results calculated with population synthesis models. There is a statistically distinct population of high tangential velocity sources ($V_{tan} > 100$ km s^{-1}) whose kinematics suggest an even older population of ultracool dwarfs belonging to either the Galactic thick disk or halo. We isolate subsets of the entire sample, including low surface-gravity dwarfs, unusually blue L dwarfs, and photometric outliers in $J-K_s$ color and investigate their kinematics. We find that the spectroscopically distinct class of unusually blue L dwarfs has kinematics clearly consistent with old age, implying that high surface-gravity and/or low metallicity may be relevant to their

[1]Department of Astrophysics, American Museum of Natural History, Central Park West at 79th Street, New York, NY 10034; jfaherty@amnh.org

[2]Massachusetts Institute of Technology, Kavli Institute for Astrophysics and Space Research, Building 37, Room 664B, 77 Massachusetts Avenue, Cambridge, MA 02139

[3]Department of Physics and Astronomy, Stony Brook University Stony Brook, NY 11794-3800

[4]Astronomy Department, California Institute of Technology, Pasadena, CA 91125

[5]Spitzer Science Center, California Institute of Technology, Pasadena, CA 91125

[6]Spitzer Postdoctoral Fellow

spectral properties. The low surface-gravity dwarfs are kinematically younger than the overall population, and the kinematics of the red and blue ultracool dwarfs suggest ages that are younger and older than the full sample, respectively. We also present a reduced proper motion diagram at 2MASS K_s for the entire population and find that a limit of $H_{K_s} > 18$ excludes M dwarfs from the L and T dwarf population regardless of near-infrared color, potentially enabling the identification of the coldest brown dwarfs in the absence of color information.

Subject headings: Astrometry– stars: low-mass– brown dwarfs– stars: fundamental parameters

1. INTRODUCTION

Kinematic analyses of stars have played a fundamental role in shaping our picture of the Galaxy and its evolution. From early investigations (e.g. Schwarzschild 1908 , Lindblad 1925, and Oort 1927) where the large scale structure of the Galactic disk was first explored, through more recent investigations (e.g. Gilmore & Reid 1983, Gilmore et al. 1989, Dehnen & Binney 1998, Famaey et al. 2005) where the structure of the Galaxy was refined to include a thick disk and prominent features such as streams, moving groups, and superclusters, kinematics have played a vital role in understanding the Galactic origin, evolution, and structure. Combining kinematics with spectral features, several groups have mapped out ages and metallicities for nearby F,G,K, and M stars (e.g. Nordström et al. 2004). The ages of these stars have become an important constraint on the Galactic star formation history and their kinematics have become a vital probe for investigating membership in the young thin disk, intermediate aged thick disk or older halo portion of the Galaxy.

One population that has yet to have its kinematics exploited is the recently discovered population of very low-mass ultracool dwarfs (UCDs). These objects, which include those that do not support stable hydrogen fusion (Kumar 1962; Hayashi & Nakano 1963), occupy the late-type M through T dwarf spectral classifications (e.g., Kirkpatrick 2005, and references therein). UCDs emit the majority of their light in the infrared and thus were only discovered in large numbers with the advent of wide-field near-infrared imaging surveys such as the Two Micron All Sky Survey (hereafter 2MASS; Skrutskie et al. 2006), the Deep Infrared Survey of the Southern Sky (hereafter DENIS; Epchtein et al. 1997) and the Sloan Digital Sky Survey (hereafter SDSS; York et al. 2000). Their very recent discovery has largely precluded astrometric measurements which require several-year baselines to produce useful measurements. Therefore, while UCDs appear to be comparable in number to stars (e.g., Reid et al. 1999), their role in the structure of the Galaxy has yet to be explored.

In addition, the thermal evolution of brown dwarfs (the lowest temperature ultracool dwarfs) implies that there is no direct correlation between spectral type and mass, leading to a mass/age degeneracy which makes it difficult to study the mass function and formation history of these objects. While some benchmark sources (e.g. cluster members, physical companions to bright stars) have independent age determinations, and spectroscopic analyses are beginning to enable individual mass and age constraints (e.g. Burgasser et al. 2006a; Saumon et al. 2007, Mohanty et al. 2004), the majority of brown dwarfs are not sufficiently characterized to break this degeneracy. Kinematics can be used as an alternate estimator for the age of the brown dwarf population.

Moreover, kinematics can also be used to characterize subsets of UCDs. With hundreds of UCDs now known[1], groupings of peculiar objects - sources whose photometric or spectroscopic properties differ consistently from the majority of the population - are becoming distinguishable. Currently defined subgroups of late-type M, L and T dwarfs include 1) low surface-gravity, very low-mass objects (e.g. McGovern et al. 2004, Kirkpatrick et al. 2006, Allers et al. 2007, Cruz et al. 2007), 2) old, metal-poor ultracool subdwarfs (e.g. Burgasser et al. 2003a, Lépine et al. 2003, Gizis & Harvin 2006, Burgasser et al. 2007b), 3) unusually blue L dwarfs (hereafter UBLs; e.g. Cruz et al. 2003, Cruz et al. 2007; Knapp et al. 2004, Chiu et al. 2006), and 4) unusually red and possibly dusty L dwarfs (e.g. Looper et al. 2008; McLean et al. 2003). While observational peculiarities can overlap between these groups (e.g. both young and dusty L dwarfs can be unusually red), they appear to encompass objects with distinct physical traits (e.g., mass, age, composition, and cloud properties) so they are important for drawing a connection between observational characteristics and intrinsic physical properties. Kinematics can be used to investigate the underlying physical causes for the peculiarities of these groups.

In the past decade a number of groups have conducted astrometric surveys of UCDs, including subsets of low mass objects (e.g. Vrba et al. 2004, Dahn et al. 2002, Gizis et al. 2000, Tinney et al. 2003, Schmidt et al. 2007, Jameson et al. 2007, Osorio et al. 2007, and West et al. 2008, 2006). We have initiated the Brown Dwarf Kinematics Project (BDKP) which aims to measure the positions and 3D velocities of all known L and T dwarfs within 20 pc of the Sun and selected sources of scientific interest at larger distances (e.g. low surface-gravity dwarfs, subdwarfs). In this article we add 332 new proper motion measurements and combine all published proper motion measurements and distance estimates into a uniform sample to examine the ultracool dwarf population as a whole. Section 2 of this paper outlines the observed sample and describes how proper motion measurements were made. Section 3 discusses the expanded sample and how distances and V_{tan} measurements were calculated.

[1]An up-to-date list of known L and T dwarfs is maintained by C. Gelino, D. Kirkpatrick and A. Burgasser at http://www.dwarfarchives.org

Section 4 examines the full astrometric sample and subsets. Section 5 reviews the high tangential velocity objects in detail. Finally, section 6 applies an age-velocity relation and examines resultant ages of the full sample and red/blue outliers.

2. OBSERVATIONS AND PROPER MOTION MEASUREMENTS

2.1. *Sample Selection*

Our goal is to re-image all known late-type M, L, and T dwarfs to obtain accurate uniformly measured proper motions for the entire ultracool dwarf population. In our sample we focused on the lowest temperature L and T dwarfs that were lacking proper motion measurements or whose proper motion uncertainty was larger than 40 mas/yr. We gave high priority to any dwarf that was identified as a low surface-gravity object in the literature. Our sample was created from 634 L and T dwarfs listed on the Dwarf Archives website as well as 456 M7-M9.5 dwarfs gathered from the literature (primarily from Cruz et al. 2003, 2007). The sample stayed current with the Dwarf Archives website through April 2008. Figure 1 shows the histogram of spectral type distributions for the entire sample. The late-type M and early-type L dwarfs clearly dominate the ultracool dwarf population. Plotted in that figure is the current distribution of objects with proper motion values and the distribution of objects for which we report new proper motions. To date we have re-imaged 427 objects. As of June 2008 and including all of the measurements reported in this article, 570 of the 634 known L and T dwarfs and 277 of the 456 late-type M dwarfs in our sample have measured proper motions.

2.2. *Data Acquisition and Reduction*

Images for our program were obtained using three different instruments and telescopes in the northern and southern hemispheres. Table 1 lists the instrument properties. For the northern targets the 1.3m telescope at MDM with the TIFKAM IR imager in J band was used. For the southern targets the 0.9m and 1.5m telescopes at CTIO with the CFIM optical imager in I band and the CPAPIR wide field-IR imager in J band (respectively) were used. The CTIO data were acquired through queue observing on 11 nights in March, September and December 2007, and standard user observing on 9 nights in January 2008. The MDM targets were imaged on five nights in November 2007 and 7 nights in April 2008. Objects were observed as close to the meridian as possible up to an airmass of 1.80, and with seeing no greater than 2.5″ FWHM. Exposure times varied depending on the target and the instrument. For CPAPIR the exposure times ranged over 15−40s with 4 co-adds per image and a five-point dither pattern. At MDM the exposure times ranged over 30−120s with up to 6 co-adds per image and a three to five-point dither pattern. For the 0.9m observations the exposure times ranged over 180−1800s per image with no co-adds and a three-point dither pattern. The dither offset between positions with each instrument was 10″.

All data were processed in a similar manner using standard IRAF and IDL routines. Domeflats were constructed in the J or I band. CPAPIR and CFIM domeflats were created from 10 images illuminated by dome lamps, and TIFKAM domeflats were created by subtracting the median of 10 images taken with all dome lights off from the median of 10 images taken with the dome lights on. A dark image constructed from 25 images taken with the shutter closed was used to map the bad pixels on the detector. Domeflats were then dark subtracted and normalized. Sky frames were created for each instrument by median-combining all of the science data taken on a given night. Science frames were first flat-fielded, then sky-subtracted. Individual frames were shifted and stacked to form the final combined images.

2.3. *Calculating Proper Motions*

The reduced science frames were astrometrically calibrated using the 2MASS Point Source catalogue. 2MASS astrometry is tied to the TYCHO 2 positions and the reported astrometric accuracy varies from source to source. In general the positions of 2MASS sources in the magnitude range $9 < K_s < 14$ are repeatable to 40-50 mas in both RA and DEC.

Initial astrometry was fit by inputting a 2x2 transformation matrix containing astrometry parameters which were first calculated from one image in which two stars with known 2MASS RA and DEC values and second epoch X,Y pixel positions were known. The reference RA, DEC and pixel values were first set to the pointing RA and DEC values and the center of the chip respectively.

RA and DEC values for all stars in the field were then imported from the 2MASS point source catalogue and converted to X,Y pixel positions using the initial astrometric parameters. We worked in X,Y positions of the second epoch image so we could overplot point source positions on an image and visually check that we converged upon a best fit solution. We detected point sources on the second epoch image with a centroiding routine which used a detection threshold of 5 sigma above the background. We matched the 2MASS X,Y positions to the second epoch positions by cross-correlating the two lists. We refined the astrometric solution by a basic six parameter, least-squares, linear transformation where we took the positions from the 2MASS image (X_1,Y_1) and the positions from the second epoch image (X_0,Y_0) and solved for the new X,Y pixel positions of the second epoch image in the 2MASS frame. Due to the large field of view, we checked for higher order terms in the CPAPIR images and found no significant terms. The following equations were used:

$$X = x_{2o} + A(X_1 - X_0) + B(Y_1 - Y_0) \tag{1}$$

$$Y = y_{2o} + C(X_1 - X_0) + D(Y_1 - Y_0) \tag{2}$$

where x_{2o} and y_{2o} were set to the center of the field, A, B, C, D solve for the rotation and plate scale in the two coordinates.

The sample of stars used to compute the astrometric solution for each image were selected according to the following criteria:

1. Only stars in the 2MASS J magnitude range $12 < J < 15$ were used, as objects in this intermediate magnitude range transformed with the smallest residuals from epoch to epoch.

2. The solution reference stars were required to transform with total absolute residuals against 2MASS of < 0.2 pixels. From testing with images taken consecutively using each instrument, the best astrometric solution always generated between 0.1 and 0.2 pixel average residuals. Therefore the stars used to calculate the solution were required to fall in or below that range.

As the solution was iterated, the residuals were examined at each step, and stars that did not fit the above criteria were removed. For CPAPIR, the process converged on a solution that had between 100 and 200 reference stars with average residuals < 0.15 pixels. TIFKAM and CFIM have smaller fields of view ($\sim$6 arcmin and $\sim$ 5 arcmin respectively as opposed to 35 arcmin for CPAPIR) so there were far fewer stars to work with. For these imagers the process converged on a solution that had between 15 and 60 reference stars. The astrometric solution was required to converge with no less than 15 reference stars and when this criterion could not be met, the other two criteria above were relaxed. As a result TIFKAM and CFIM had slightly larger residuals on the astrometric solution (average residuals < 0.25 pixels).

Once an astrometric solution was calculated, final second epoch positions were computed using a Gaussian fit for each 2MASS X,Y position on an image. For the science target, a visual check was employed to ensure that it had been detected and X,Y positions were manually input for the Gaussian fit. Final X,Y positions were then converted back into RA and DEC values using the best astrometric solution and the proper motion was calculated using the positional offset and time difference between the second epoch image and 2MASS.

The residuals of the astrometric solution were converted into proper motion uncertainties by multiplying by the plate scale of the instrument and then dividing by the epoch difference. The baselines ranged from 6-10 years and our astrometric uncertainties range from 5 to 50 mas/yr. Positional uncertainties for each source were also calculated by comparing the residuals of transforming the X,Y position for our target over consecutive dithered images. These uncertainties are dominated by counting statistics with the high S/N sources having negligible positional uncertainties compared to the uncertainties in the astrometric solution. We added the positional and astrometric solution uncertainties in quadrature to determine the total proper motion uncertainty. Figure 2 shows the distribution of proper motion uncertainties and baselines for all new proper motion measurements reported in this paper. The median uncertainty was 18 mas/yr.

Of the 427 proper motion measurements we report in this paper, 332 are presented here for the first time. Twelve objects were purposely remeasured with multiple instruments as a double check on the accuracy of the astrometric solution, and 42 objects were remeasured to refine the proper motion uncertainties. Thirty-two measurements were published in Jameson et al. (2007)-hereafter J07-, and 11 in Caballero (2007) while our observations were underway. The proper motion measurements presented in this paper agree to better than 2σ in 84 of the 97 cases of objects with prior measurements. Table 4 lists those cases where the proper motions are discrepant by more than 2σ with a published value. For nine of the objects, there is a third (fourth or fifth) measurement by an independent group with which we are in good agreement. We are discrepant with six objects reported in Deacon et al. (2005) but we note that there are no position angle uncertainties reported for these objects in that catalogue therefore we cannot fully assess the accuracy of the proper motion components. The difference in proper motion for 2MASSW J1555157-095605 is quite large (> 1"/yr difference) but there are two other measurements for this object with which we are in close agreement. We have examined all of the discrepant proper motion images carefully and see no artifacts that could have skewed our measurements. Figure 3 compares the proper motion component measurements from this paper with those from the literature for objects with μ < 0.5 ″/yr and $\mu_{err} < 0.1$ ″/yr. With∼90% agreement with published results, this indicates that the 332 new measurements are robust. Table 2. contains all new measurements reported in this article, and Table 3. contains the astrometric measurements for the full sample.

3. DISTANCES, TANGENTIAL VELOCITIES, AND REDUCED PROPER MOTION

3.1. *Expanded Sample*

We extended our observational sample to include published late-type M, L, and T dwarfs with proper motion measurements yielding a full combined sample containing 841 objects. Thirty-three percent of ultracool dwarfs in the full sample have multiple proper motion measurements. In these cases we chose the measurement with the smallest uncertainty for our kinematic analysis, typically objects from high precision astrometric surveys such as Vrba et al 2004 or Dahn et al 2002. If there was a value discrepant by more than 2σ amongst multiple measurements (> 2) for an object then regardless of uncertainty we defaulted to the numbers that were in agreement and chose the one with the smaller uncertainty. Otherwise, if there was a discrepancy and only two measurements, we quoted the one that had the smaller uncertainty and made note of it during the analysis.

3.2. *Distances and Tangential Velocities*

True space velocities are a more fundamental measure of an object's kinematics than apparent angular motions, so proper motions for the complete sample were converted to tangential velocities using astrometric or spectrophotometric distances. As of January 2008, only 79 of the 634 L and T dwarfs and 64 of the 456 late-type M dwarfs in our sample had published parallax measurements. Therefore to include the other 83% of L and T dwarfs and 87% of late-type M dwarfs in a population analysis, published absolute magnitude/spectral type relations were used for calibrating distances. Dahn et al. (2002) and Vrba et al. (2004) both showed that M_J is well correlated with spectral type for late-type M, L, and T dwarfs (see alsoWest et al. 2005, and Covey et al. 2007). Since the initial relations were published several investigators have revised the absolute magnitude/spectral type relation after including new measurements and removing resolved binaries. In this paper, the distances for the M7-L4.5 dwarfs were calculated using the absolute 2MASS J magnitude/spectral type relation in Cruz et al. (2003) and the distances for the L5 –T8 dwarfs were calculated using the absolute MKO K magnitude/spectral type relation in Burgasser (2007)[2]. Both optical

[2]The coefficients of this polynomial relation reported in Burgasser (2007) did not list sufficient significant digits, yielding a slightly different numerical relation than that used in the paper's analysis. The coefficients as defined should be $\{c_i\}$ = [10.4458, 0.232154, 0.0512942, -0.0402365, 0.0141398, -0.00227108, 0.000180674, -6.98501e-06, 1.05119e-07], where $M_K = \sum_{i=0}^{6} c_i \mathrm{SpT}^i$ and SpT(T0) = 10, SpT(T5) = 15, etc.

and near-IR spectral types are reported for ultracool dwarfs. For late-type M through the L dwarfs, we use the optical spectral type in the distance relation when available but use near-IR spectral types when no optical spectral types are reported. We use the near-IR spectral type in the distance relation for all T dwarfs. The Cruz et al. (2003) relation was derived for the 2MASS magnitude system, while the Burgasser (2007) relation was derived using the MKO system. In reporting distances we maintain the magnitude system for which the relation was calculated, converting a 2MASS magnitude to an MKO magnitude or vice versa using the relation in Stephens & Leggett (2004) when necessary. The most recent precision photometry for many L and T dwarfs (e.g. Knapp et al 2004; Chiu et al. 2006, 2008) are reported on the MKO system; yet the majority of objects explored in this paper have measured 2MASS magnitudes. We convert MKO filter measurements to the 2MASS system when available using the conversion relations of Stephens & Leggett (2004) so all of the ultracool dwarf photometry in Table 3 is reported on the 2MASS system.

The uncertainty in the derived distance is dominated by the uncertainty in the spectral type (the photometric uncertainties are typically between 0.02-0.1 mag whereas the spectral type uncertainties are typically 0.5-1.0). This leads to a systematic over- or underestimation of distance of up to 30%. Therefore the kinematic results presented in this paper are largely sensitive to the reliability of the spectrophotometric distances used to calculate V_{tan}. Furthermore, unresolved multiplicity leads to an underestimation of distance. Recent work has shown that roughly 20% of ultracool dwarfs are likely to be binary (Allen 2007, Reid et al. 2008), and this fraction may be even higher across the L dwarf/T dwarf transition (Burgasser et al. 2006b). Seven percent (56) of the dwarfs analyzed in this paper are known to be close binaries and of these, most appear to be near equal-mass/equal brightness (e.g. Bouy et al. 2003; Burgasser et al. 2006b). For these objects we use the distances quoted in the binary discovery papers where the contribution of flux from the secondary was included in the distance estimate. Any remaining tight binaries probably constitute no more than 10-20% of the sample and the contamination of their inclusion in the kinematic analysis is relatively small.

3.3. *Reduced Proper Motion Diagram*

A reduced proper motion diagram is a useful tool for distinguishing between kinematically-distinct stellar and substellar populations. This parameter was used extensively in early high proper motion catalogues to explore Galactic structure (Luyten 1973). Proper motion is used as a proxy for distance measurements following the expectation that objects with large proper motions will be nearest to the Sun. The definition is analogous to that of absolute magnitude:

$$H = m + 5.0 + 5.0log_{10}(\mu) \tag{3}$$

or

$$H = M + 5.0log_{10}(V_{tan}) - 3.38 \tag{4}$$

where m and M are the apparent and absolute magnitudes (respectively), V_{tan} is measured in km/s and μ is measured in $''$/yr.

We can use reduced proper motion to search for the lowest temperature objects. In Figure 4, we show the reduced proper motion at K_s for our astrometric sample. We find that below an H_{K_s} of 18 there are only L and T dwarfs regardless of near-IR color. Since the discovery of the first brown dwarfs, near-IR color selection has been the primary technique for identifying strong candidates. But because M dwarfs dominate photometric surveys (they are bright, nearby and found in large numbers), near-IR color cut-offs were administered to maximize the L and T dwarfs found in searches. These cut-offs have caused a gap in the near-IR color distribution of the brown dwarf population, particularly around $J - K_s$ of 1 where early-type T dwarfs and metal weak L dwarfs are eliminated along with M dwarfs. A reduced proper motion diagram with the cut-off limit cited above allows a search which eliminates the abundant M dwarfs and probes the entire range of $J - K_s$ colors for the ultracool dwarf population.

Note that, while our cut-off limits are good guidelines for segregating the coolest temperature dwarfs within the ultracool dwarf population, there is likely to be contamination in selected regions of the sky from relatively rare ultracool subdwarfs and cool white dwarfs, which are nonetheless of scientific interest.

4. ANALYSIS

4.1. *Kinematic Characteristics of the Ultracool Dwarf Population*

The ultracool dwarfs analyzed in this paper have a range of proper motion values from $0.01-4.7''$/yr and a range of proper motion uncertainties from $0.0002 - 0.3$ $''$/yr. While one of our goals is to refine proper motion measurements of ultracool dwarfs to have uncertainties < 40 mas/yr, there are still 86 or 10% that have larger errors. Since the uncertainty in V_{tan} is generally dominated by the uncertainty in distance (see subsection 3.2 above) we make no restrictions on the accuracy of the proper motion measurements used in the kinematic analysis. The median 1σ detection limit for proper motion measurements in this paper was 18 mas/yr (see Figure 2). We use this number as a proxy for the L and T dwarfs (where we are looking at all known field objects as opposed to the late-type M dwarfs where we are looking at only a subset) to determine the percentage of objects with appreciable motion. We find that 32 move slower than our 2σ detection limit and ten of those are at or below our 1σ limit. This indicates that according to our astrometric standard, less than 6% of L and T dwarfs have no appreciable motion. Conversely, 32 objects (or 6% of the population) move faster than $1.0''$/yr making them some of the fastest proper motion objects known. As late-type dwarfs are intrinsically quite faint and have only been detected at nearby distances (generally $\leq$ 60 pc), the high proper motion values measured are not surprising. Using the median proper motion values listed in Table 5 as a proxy , we can also conclude that at least half or more of the brown dwarf population would be easily detectable on a near-IR equivalent of Luyten's 2-tenth catalog (Luyten 1979) where the limiting proper motion was $\sim$ 0.15 $''$/yr.

Table 5 lists the average proper motion values and photometric data for the entire population binned by spectral type. There is a trend within these data for larger proper motion values with increasing spectral type. This is clearest within the L0-L9 population where the sample is largest. We further bin this group into thirds to compare a statistically significant sample. We examine the L0-L2, L3-L5, and L6-L9 populations and find the median proper motion values increase as (0.174, 0.223, 0.289) $''$/yr. This trend most likely reflects the fact that earlier type sources are detected to further distances. Indeed when we examine the median distance values for these same groupings we find values of (31, 27, 20) pc respectively.

4.2. *Kinematics of Full and 20pc Samples*

We have conducted our kinematic analysis on two samples: the full astrometric sample and the 20 pc sample. Figure 5 shows the distance distribution for all ultracool dwarfs regardless of proper motion measurements to demonstrate the pertinence of the 20 pc sample. In this figure, both the late-type M and L dwarfs diverge from an N $\propto$ d^3 density distribution around 20 pc. The T dwarfs diverge closer to 15 pc. Within the literature (e.g Cruz et al. 2003) complete samples to 20 pc have been reported through mid-type L dwarfs so we use this distance in order to establish a volume-limited kinematic sample. We also examine the two samples with and without objects with $V_{tan} > 100$ km s^{-1} in order to remove extreme outliers that may comprise a different population.

Tables 6 - 7 contain the mean kinematic properties for the 20 pc sample and the full astrometric sample respectively. Figure 6 shows V_{tan} vs. spectral type for both samples. As demonstrated in Figure 6, we find no difference between the two samples, with median V_{tan} values of 26 km s^{-1} and 29 km s^{-1} and σ_{tan} values of 23 km s^{-1} and 25 km s^{-1} for

M7-T9 within the full sample and the 20 pc sample respectively. Within spectral class bins, namely the M7-M9, L0-L9, or T0-T9 groupings, we find no significant kinematic differences. This indicates that we are sampling a single kinematic population regardless of distance and spectral type.

Figure 7 shows the distribution of tangential velocities. There are 14 objects with V_{tan} > 100 km s^{-1} that fall at the far end of the distribution. Exclusion of these high velocity dwarfs naturally reduces the median V_{tan} and σ_{tan} values. The most significant difference in their exclusion occurs within the L0-L9 group as 10 of the 14 objects belong to that spectral class. We explore the importance of this subset of the ultracool dwarf population in section 5.

In order to put our kinematic measurements in the context of the Galaxy we compare with Galactic U,V,W dispersions. Proper motion, distance, and radial velocity are all required to compute these space velocities. Therefore, a direct Galactic U,V,W comparison with the ultracool dwarf population is not possible because radial velocity measurements for ultracool dwarfs are sparse, with only 48 of the L and T dwarfs to date having been reported in the literature (e.g. Mohanty & Basri 2003, Osorio et al. 2007, Bailer-Jones 2004). This is a similar problem to that for precise brown dwarf parallax measurements, but there is no relationship for estimating radial velocities as there is for estimating distances. However, we can divide our sample into three groups along Galactiocentric coordinate axes (toward poles, in direction of Galactic rotation and radially to/from Galactic center) in order to minimize the importance of radial velocity in 2 out of the 3 space velocity components. We create cones of 0 (all inclusive), 30, and 60 degrees around the galactic X,Y, and Z axes. Inside of each cone we set either the U,V, or W velocity to zero if the cone surrounds the galactic X,Y or Z axis respectively. In this way we can set the radial velocity of each source to zero with minimum impact on the component velocities of the entire sample and gather U,V,W information for the known ultracool dwarf population. We emphasize that this analysis is crude as the distribution of ultracool dwarfs is not isotropic (the Galactic plane has largely not been explored), and while the cones help to minimize the importance of radial velocity unless an object is directly on the X,Y, or Z axis, the radial velocity component will contribute to the overall velocities. Therefore, the spread of U,V,W velocities will be biased toward a tighter dispersion than the true values. In order to calculate total velocities (V_{tot}) for objects, which requires U,V, and W velocities we choose a cone of 30 degrees which provides a statistically significant sample. We create the cone around the X,Y, or Z axis and assume that within that cone either the V,W or U,Z or U,V components respectively are correct. To obtain the third component we assume it to be the average of the two calculated ones. In this way we can gather V_{tot} information which will be used for age calculation purposes in Section 6.

Figure 8 shows our resultant U,V,W distributions where we measure $(\sigma_U, \sigma_V, \sigma_W)$=(28, 22, 17) km s^{-1}. We compare these dispersions with the kinematic signatures of the three Galactic populations, namely the thin disk, the thick disk, and the halo. The overwhelming majority of stars in the solar neighborhood are members of the Galactic disk and these are primarily young thin disk objects as opposed to older thick disk objects. The halo population of the Galaxy encompasses the oldest population of stars in the Galaxy but these objects are relatively sparse in the vicinity of the Sun. Membership in any Galactic population has implications for the age and metallicity of the object and kinematics play a large part in defining the various populations. Soubiran et al. (2003) find $(\sigma_U, \sigma_V, \sigma_W)$=(39 ± 2, 20 ± 2, 20 ± 1) km s^{-1} for the thin disk and $(\sigma_U, \sigma_V, \sigma_W)$=(63 ± 6, 39 ± 4, 39 ± 4) km s^{-1} for the thick disk, and Chiba & Beers (2000) find $(\sigma_U, \sigma_V, \sigma_W)$=(141 ± 11, 106 ± 9, 94 ± 8) km s^{-1} for the halo portion of the Galaxy. Our U,V,W dispersions are consistent (albeit narrower in U) with the Galactic thin disk.

Osorio et al. (2007) – hereafter Os07– examined 21 L and T dwarfs and found $(\sigma_U, \sigma_V, \sigma_W)$=(30.2, 16.5, 15.8) km s^{-1}. Their velocity dispersions are tighter than what is expected from the Galactic thin disk population. Our calculated dispersions are tighter at U than the Os07 result (which is expected due to the stated bias) but broader in V and W. In section 6 we discuss the implications on age of the differences calculated from our astrometric sample.

4.3. *Red and Blue Photometric Outliers*

As discussed in Kirkpatrick et al. (2005) the large number of late-type M, L, and T dwarfs discovered to date has revealed a broad diversity of colors and spectral characteristics, including specific subgroups of peculiar sources that are likely related by their common physical properties. As a very basic metric, near-IR colors provide one means of distinguishing between "normal" and "unusual" objects. To investigate our sample for kinematically distinct photometric outliers, we first defined the average color ($(J-K_s)_{avg}$) as well as standard deviation (σ_{J-K_s}) as a function of spectral type using all known ultracool dwarfs (i.e., both with and without proper motion measurements). Defining the $(J-K_s)_{avg}$ for spectral bins has been done in previous ultracool dwarf studies such as Kirkpatrick et al. (2000), Vrba et al. (2004), and West et al. (2008) but we have included all ultracool dwarfs in the dwarfarchives complilation and the updated photometry reported in Chiu et al. (2006, 2008) and Knapp et al. (2004) which we have converted from the MKO system to the 2MASS system. Objects were eliminated from the photometric sample if they fit any of the following criteria:

1. Uncertainty in J or K_s > 0.2 magnitude;

2. Known subdwarf;

3. Known binaries unresolved by wide-field imaging surveys (i.e. separations $\lesssim 1''$ e.g. Martin et al. 1999; Bouy et al. 2003; Burgasser et al. 2006b; Close et al. 2003; Liu et al. 2006; Reid et al. 2006); and

4. Member of a star forming region (such as Orion) or open cluster (such as the Pleiades) indicating an age $\lesssim 100$ Myr (e.g. Allers et al. 2007; Zapatero Osorio et al. 2002)

We then designated objects as photometric outliers if they satisfied the following criterion :

$$\Delta_{J-K_s} = \mid (J-K_s) - (J-K_s)_{avg} \mid \geq \max(2\sigma_{J-K_s}, 0.4) \tag{5}$$

In other words, if an object's $J-K_s$ color was more than twice the standard deviation of the color range for that spectral bin than we flagged it as a red or blue photometric outlier. If twice the standard deviation was larger than 0.4 magnitudes then it was automatically reset to 0.4. We chose 0.4 as the maximum upper limit for $2\sigma_{J-K_s}$ as this is the Δ_{J-K_s} for the entire ultracool dwarf population.

There are relatively few objects in each spectral bin beyond L9. For spectral type (SpT) < L9 there is a mean of 45 objects used per bin whereas for SpT> L9 there is a mean of only 7 objects. So photometric outliers are difficult to define for the lower temperature classes and may contaminate the analysis. We grouped T7-T8 dwarfs to improve the statistics used to calculate average values. The kinematic results for this subset of the ultracool dwarf population are reported with and without the T dwarfs in Table 8. Figure 9 shows the resulting $J-K_s$ color distribution and highlights the photometric outliers. Tables 9 - 10 list the details of the red and blue photometric outliers respectively. Table 5 lists the resultant mean photometric values for each spectral type.

Amongst the full sample, we find 16 blue photometric outliers and 29 red photometric outliers. Many of the objects have already been noted in the literature as having unusual colors, and several of these have anomalous spectra and have been analyzed in detail (e.g. Burgasser et al. 2007a, Knapp et al. 2004, Folkes et al. 2007, Chiu et al. 2006). Table 8 lists the mean kinematic properties for the blue and red subgroups of the ultracool dwarf population and Figure 10 isolates the outliers and plots their tangential velocity vs. spectral type. The blue outliers have a median V_{tan} value of 53 km s^{-1} and a σ_{tan} of 47 km s^{-1} while the red outliers have a median V_{tan} value of 26 km s^{-1} and a σ_{tan} of 16 km s^{-1} . Figure 11 shows the tangential velocity vs. J-K_s deviation for all objects in the sample with the dispersions of the red and blue outliers highlighted. There is a clear trend for V_{tan} values to decrease from objects that are blue for their spectral type to those that are red. This is particularly significant at the extreme edges of this diagram. The dashed line in Figure 11 marks the spread of V_{tan} values for the full sample and demonstrates the significant deviations for the color outliers. We explore the age differences from these measurements in section 6.

4.4. *Low Gravity Objects*

A number of ultracool dwarfs that exhibit low surface-gravity features have been reported in the literature within the past few years (e.g. Cruz et al. 2007, Luhman & Rieke 1999; McGovern et al. 2004, Kirkpatrick et al. 2006; Allers et al. 2007). Low surface-gravity dwarfs are distinguished as such by the presence of weak alkali spectral features, enhanced metal oxide absorption, and reduced H_2 absorption. They are most likely young , with lower masses than older objects of the same spectral type. For ages $\lesssim$ 100 Myr these objects may also have larger radii than older brown dwarfs and low mass stars with similar spectral types, as they are still contracting to their final radii (e.g., Burrows et al. 1997).

We examine the kinematics of 37 low surface-gravity dwarfs in this paper. Seven of these objects are flagged as red photometric outliers and were examined in the previous subsection. The overlap between these two subgroups is not surprising as the reduced H_2 absorption in low surface-gravity dwarfs leads to a redder near-IR color. The median V_{tan} value for this subgroup is 18 km s^{-1} and the σ_{tan} value is 15 km s^{-1} which is smaller than that of the red photometric outliers as a whole and therefore points to the same conclusion. The smaller median V_{tan} and tighter dispersion of the low surface-gravity dwarfs as compared to either the full or 20 pc sample indicates that they are kinematically distinct.

4.5. *Unusually Blue L Dwarfs*

A subgroup of unusually blue L dwarfs (UBLs) has been distinguished based on strong near-IR H_2O, FeH and K I spectral features but otherwise normal optical spectra. Burgasser et al. (2008a) –hereafter B08– identify ten objects that comprise this subgroup (see Table 6 in B08). With the kinematics reported in this article we are able to analyze all ten. There are several physical mechanisms that can contribute to the spectral properties of UBLs. High surface-gravity, low metallicity, thin clouds or unaccounted multiplicity are amongst the physical mechanisms most often cited. B08 has demonstrated that while sub-solar metallicity and high surface-gravity could be contributing factors in explaining the spectral deviations, thin, patchy or large-grained condensate clouds at the photosphere appears to be the primary cause for the anomalous near-IR spectra (e.g. Ackerman & Marley 2001, Burrows et al. 2006).

The median V_{tan} value for this subgroup is 99 km s^{-1} with σ_{tan} of 47 km s^{-1} and this subgroup consists of dwarfs with the largest V_{tan} values measured in this kinematic study. These kinematic results strengthen the case that the UBLs represent an older population and that the blue near-IR colors and spectroscopic properties of these objects are influenced by large surface-gravity and/or slightly subsolar metallicities. Both of these effects may be underlying explanations for the thin clouds seen in blue L dwarf photospheres. Subsolar metallicity reduces the elemental reservoir for condensate grains while high surface-gravity may enhance gravitational settling of clouds. In effect, the clouds of L dwarfs may be tracers of their age and/or metallicity.

Eight of the ten UBLs examined in this subsection are also flagged as blue photometric outliers and examined in detail above. The overlap between these two subgroups is not surprising as many of the UBLs were initially identified by their blue near-IR color (e.g. Cruz et al. 2007, Knapp et al. 2004). There are 8 other blue photometric outliers, one of which has a V_{tan} value exceeding 100 km s^{-1}. We plan on obtaining near-IR spectra for these outliers to investigate the possibility that they exhibit similar near-IR spectral features to the UBLs.

While the UBLs are the most kinematically distinct subgroup analyzed in this paper, their kinematics do not match those of the ultracool subdwarfs. The subdwarfs were excluded from the kinematic analysis in this paper because they are confirmed members of a separate population. The median V_{tan} value for this subgroup is 196 km s^{-1} with σ_{tan} of 91 km s^{-1}. The UBLs move at half this speed indicating there is a further distinction between UBLs and the metal-poor halo population of ultracool dwarfs.

5. *High Velocity Dwarfs*

Table 11 summarizes the properties of the 14 high velocity dwarfs whose V_{tan} measurements exceed 100 km s^{-1}. A number of these have been discussed in the literature, having been singled out in their corresponding discovery papers as potential members of the thick disk or halo population. One high velocity dwarf is presented here for the first time. SDSS J093109.56+032732.5 is an L7.5 dwarf and is classified as both a UBL and a blue photometric outlier. We calculate V_{tan} for this object to be 108 ± 23 km s^{-1}.

Among the high velocity dwarfs, 11 have colors that are blue and 3 have colors that are normal for their spectral type. Three objects belong to the UBL subgroup. Three of the objects are late-type M dwarfs (2MASS J18261131+3014201, 2MASS J03341218-4953322, and 2MASS J132352+301433), one is a late T7.5 dwarf (2MASSJ 11145133-2618235) and the rest are early to mid-type L dwarfs. Four of the objects are flagged as blue photometric outliers. We explore the possibility that these objects are thick disk or halo objects in detail in a forthcoming paper.

6. ON THE AGES OF THE ULTRACOOL DWARF POPULATIONS

6.1. *Kinematics and Ages*

A comparison of the velocity dispersion for nearby stellar populations can be an indicator of age. While individual V_{tan} measurements cannot provide individual age determinations due to scatter and projection effects, the random motions of a population of disk stars are known to increase with age. This effect is known as the disk age-velocity relation (AVR) and is simulated by fitting well-constrained data against the following analytic form:

$$\sigma(t) = \sigma_0(1 + \frac{t}{\tau})^{\alpha} \tag{6}$$

where $\sigma(t)$ is the total velocity dispersion as a function of time, σ_0 is the initial velocity dispersion at t=0, τ is a constant with unit of time, and α is the heating index (Wielen 1977). $\sigma(t)$ is defined for U,V,W space velocities but we can estimate the total velocity dispersion using our measured tangential velocities assuming the dispersions are spread equally between all three velocity components, such that:

$$\sigma(t) = (3/2)^{(1/2)}\sigma_{tan} \tag{7}$$

Hänninen & Flynn (2002) calculate α from seven distinct data sets (both pre and post-Hipparcos) and find α ranges from 0.3 to 0.6. This is a large range of values and the authors are reluctant to assign a higher likelihood to any given value as each have nearly equal uncertainties. One possible explanation for the spread of values is that σ should be mass dependent [3]. If so, this would make a large difference in the age calculations for the low mass ultracool dwarf population. While the age-velocity relation in the nearby disk remains only roughly determined, there is strong observational evidence for a relation so we proceed with caution in examining the broad age possibilities implied by the AVR for the ultracool dwarf population.

[3]Indeed Iwanowska 1980 proposes the introduction of a mass term to account for the importance of the exchange of energy between stars in the Galactic disk

Recent findings have suggested that late-type M stars in the solar neighborhood are younger on average than earlier type stars (Hawkins & Bessell 1988; Kirkpatrick et al. 1994; Reid et al. 1994). Several investigators have combined kinematics with the Wielen (1977) relationship (which uses a value of 1/3 for α) to estimate age ranges for the ultracool dwarf population and concluded that it is kinematically younger than nearby stellar populations (e.g. Dahn et al. 2002, Schmidt et al. 2007, Gizis et al. 2000, Osorio et al. 2007). We conducted a direct V_{tan} comparison with nearby stellar populations to draw conclusions about the kinematic distinguishability of our ultracool dwarf sample. We compared the kinematics of a 20 pc sample of F,G,K, and early M stars from Soubiran et al. (2003), Kharchenko et al. (2004) and Nordström et al. (2004) using a limiting proper motion of 25 mas/yr to our 20 pc sample and examined the resultant median V_{tan}, σ_{tan}, and V_{tot} , σ_{tot} values (where V_{tot} comes from the U,V,W velocities). Figure 12 shows our resultant velocity dispersions for nearby stellar populations along with the dispersions of our 20 pc sample. We show both the dispersions calculated using tangential velocities and those calculated using U,V,W velocities. As expected the dispersions are tighter for the UCDs when U,V,W values are used since we have attempted to minimize the importance of radial velocity. This effect is also reflected in the younger ages estimated from these dispersions. The tangential velocity dispersions are in good agreement between the UCDs and nearby stellar populations (see also West et al. 2008,Bochanski et al. 2007, and Covey et al. (2008)). Table 12 contains the calculated kinematic measurements and Wielen ages using both σ_{tan} and σ_{tot}. With Wielen ages of 3-8 Gyr calculated from σ_{tan}, we conclude that our 20 pc sample is kinematically indistinct from other nearby stellar populations and hence is not kinematically younger. The ages calculated by the AVR for the 20 pc sample are in good agreement with those predicted in population synthesis models where the mean ages for the ultracool dwarf population range from 3-6 Gyr (Burgasser 2004b; Allen et al. 2005).

We do find younger ages for the ultracool dwarf population when the high velocity dwarfs are excluded. As stated in section 4, the median V_{tan} and σ_{tan} values are naturally reduced when the high velocity dwarfs are excluded and consequently the ages are also reduced. Kinematic analyses of the past have regarded these objects as a separate older population and omitted them from an age calculation (e.g. Schmidt et al. 2007). Table 6 presents the ages with and without the high velocity dwarfs for the 20 pc sample. When the high velocity dwarfs are excluded the age ranges are reduced from 3-8 Gyr to 2-4 Gyr, which is still consistent with population synthesis models.

The Os07 study estimated mean ages of ~ 1 Gyr for the L and T dwarf population . Even with the exclusion of the kinematic outliers, the ages calculated in our full and 20 pc samples do not match this very young age. Os07 combined proper motions, precise parallaxes, and radial velocities to study the 3D kinematics of a limited sample of 21 objects. When we apply an age velocity relation to the red photometric outliers and the low gravity dwarfs we do find ages that are on the order of ~ 1 Gyr. We discuss the red outliers below but conclude that the low surface-gravity dwarfs are kinematically younger than the full or 20 pc sample. This result is consistent with what has already been reported through spectroscopic studies. There do not appear to be any low surface-gravity dwarfs flagged in the Os07 sample however further examination of their L and T dwarf spectra might be warranted by the discrepancy in ages between our samples. We suggest that kinematic studies of UCDs to date, including Os07, may have been plagued by small number statistics or a bias in the sample analyzed.

6.2. *Ages of the Red and Blue Outliers*

We have defined two subgroups of the ultracool dwarf population in this article that are both photometrically and kinematically distinct from the full or 20 pc samples. Objects whose $J - K_s$ colors are sufficiently deviant are also kinematically different from the overall population. While we again advise caution in using the AVR, we can use it to compare the predicted ages of the photometric outliers to the predicted ages for the full or 20 pc samples. We find that the kinematics for the red outliers are consistent with a younger population of ultracool dwarfs whereas the kinematics for the blue outliers are consistent with an older population. The ~ 1 Gyr mean age for the red outliers coincides with the prediction of Os07 for the entire L and T population. We have examined the photometry of their sample and concluded that the $J - K_s$ colors of their objects are normal so the age calculation of their sample is not influenced by a bias from inclusion of photometric outliers. The ~ 38 Gyr mean age for the blue outliers is misleading. It indicates a large divergence from the full and 20 pc samples but also indicates that the AVR must be incorrect for these objects. The more informative number in this case is the median V_{tan} which, at 56 km/s, is nearly twice the expected value for the thin disk (see Reid & Hawley 2005). The blue photometric outliers most likely belong to an older population of the Galaxy such as the thick disk or the halo. The Wielen AVR is only valid for thin disk objects and we are unaware of an equivalent age relation for the halo or thick disk population.

From our kinematic analysis we conclude that there is an age-color relation that can be derived for the UCD field population. A change in broad-band collision-induced H_2 absorption that suppresses flux at K-band is partially responsible for the near-IR color and consequently the age of the photometric outliers (Linsky 1969; Saumon et al. 1994; Borysow et al. 1997). H_2 absorption is pressure and hence gravity sensitive. Changes in H_2 absorption effect gravity sensitive features which are used as an indicator of age. The overlap of red photometric outliers with low surface-gravity dwarfs and the concensus within the literature that low-g dwarfs are young demonstrates the age sensitivity of H_2 absorption.

Cloud properties have also been linked to a change in near-IR color. The analyses of B08, and Cushing et al. 2008 have shown that the thickness of patchy or large-grained condensate clouds at the photospheres of dwarfs will lead to redder (thick clouds) or bluer (thin clouds) near-IR colors. The old age implied by the kinematics of the blue outliers and the overlap with the UBLs suggests that there is a correlation between cloud properties and age or metallicity; but further investigation is warranted in this area.

Jameson et al. (2008) have proposed a relation for inferring the ages of young L dwarfs using only near-infrared photometry and estimated distances. Their work supports the argument for an age-color relation for the ultracool dwarf population. The ages that they work with are no larger than $\sim$ 0.7 Gyr. At these young ages, the surface gravities of UCDs change more rapidly than for ages greater than a few Gyr, so the age-color relation may be much stronger in the Jameson et al. (2008) sample than that seen for field dwarfs.

7. CONCLUSIONS

We present new proper motions for 427 late-type M, L, and T dwarfs and combine all previous proper motion measurements with either parallax measurements or spectrophotometric distances to compute tangential velocities for 841 M7–T9 dwarfs. We derive average kinematic and photometric values for individual spectral types as well as for the late-type M,L, and T populations as a whole. We conduct a crude U,V,W analysis and find that the full and 20 pc samples examined in this article have space velocities consistent with the Galactic thin disk population. However, there are 14 objects in the ultracool dwarf population that lie at the tail end of the velocity distribution and are likely to be part of an older Galactic population. Ages for the 20 pc sample of this kinematic study are consistent with the 3-6 Gyr values derived in population synthesis models; we propose that one reason for prior kinematic reports of $\sim$1 Gyr mean ages for the L and T dwarf population is due to small number statistics or a bias in the sample analyzed.

We find a large difference in the kinematics between red and blue photometric outliers and conclude that their velocity dispersions are kinematically distinct from the full or 20 pc samples. Analysis of the low surface-gravity and UBL subgroups also shows a distinction from the full and 20 pc samples. Applying an age-velocity relation we conclude that the red outliers and low surface-gravity subgroups are younger than the full and 20 pc samples and the blue outliers and UBLs are older.

We acknowledge receipt of observation time through the SMARTS consortium and MDM consortium. We especially thank the observing staff at CTIO, including J. Velazquez the night assistant for a week of CPAPIR observing time in January 2008. Stony Brook's participation in the SMARTS consortium is made possible by generous support by the Dean of Arts and Sciences, the Provost, and the Vice-President for Research of Stony Brook University. J. Faherty would like to thank S. Lepine for his useful conversations about kinematic studies. We also thank R. Doyon, E. Artigau, and L. Malo for help with CPAPIR usage and data reduction and K. Schlesinger, R. Assef, and D. Atlee for help with using TIFKAM and the 1.3m telescope at MDM. Research has benefitted from the M, L, and T dwarf compendium housed at DwarfArchives.org and maintained by Chris Gelino, Davy Kirkpatrick, and Adam Burgasser. This publication has made use of the VLM Binaries Archive maintained by Nick Siegler at http://www.vlmbinaries.org. This publication makes use of data products from the Two Micron All Sky Survey, which is a joint project of the University of Massachusetts and the Infrared Processing and Analysis Center/California Institute of Technology, funded by the National Aeronautics and Space Administration and the National Science Foundation. This research has made use of the NASA/ IPAC Infrared Science Archive, which is operated by the Jet Propulsion Laboratory, California Institute of Technology, under contract with the National Aeronautics and Space Administration.

REFERENCES

Ackerman, A. S. & Marley, M. S. 2001, ApJ, 556, 872

Allen, P. R. 2007, ApJ, 668, 492

Allen, P. R., Koerner, D. W., Reid, I. N., & Trilling, D. E. 2005, ApJ, 625, 385

Allers, K. N., Jaffe, D. T., Luhman, K. L., Liu, M. C., Wilson, J. C., Skrutskie, M. F., Nelson, M., Peterson, D. E., Smith, J. D., & Cushing, M. C. 2007, ApJ, 657, 511

Artigau, É., Doyon, R., Lafrenière, D., Nadeau, D., Robert, J., & Albert, L. 2006, ApJ, 651, L57

Bailer-Jones, C. A. L. 2004, A&A, 419, 703

Bartlett, J. L. 2007, PhD thesis, University of Virginia

Becklin, E. E. & Zuckerman, B. 1988, Nature, 336, 656

Berriman, B., Kirkpatrick, D., Hanisch, R., Szalay, A., & Williams, R. 2003, Large Telescops and Virtual Observatory: Visions for the Future, 25th meeting of the IAU, Joint Discussion 8, 17 July 2003, Sydney, Australia, 8

Biller, B. A., Kasper, M., Close, L. M., Brandner, W., & Kellner, S. 2006, ApJ, 641, L141

Bochanski, J. J., Munn, J. A., Hawley, S. L., West, A. A., Covey, K. R., & Schneider, D. P. 2007, AJ, 134, 2418

Borysow, A., Jorgensen, U. G., & Zheng, C. 1997, A&A, 324, 185

Bouy, H., Brandner, W., Martín, E. L., Delfosse, X., Allard, F., & Basri, G. 2003, AJ, 126, 1526

Burgasser, A. J. 2004a, ApJ, 614, L73

—. 2004b, ApJS, 155, 191

—. 2007, ApJ, 659, 655

Burgasser, A. J., Burrows, A., & Kirkpatrick, J. D. 2006a, ApJ, 639, 1095

Burgasser, A. J., Kirkpatrick, J. D., Brown, M. E., Reid, I. N., Burrows, A., Liebert, J., Matthews, K., Gizis, J. E., Dahn, C. C., Monet, D. G., Cutri, R. M., & Skrutskie, M. F. 2002, ApJ, 564, 421

Burgasser, A. J., Kirkpatrick, J. D., Brown, M. E., Reid, I. N., Gizis, J. E., Dahn, C. C., Monet, D. G., Beichman, C. A., Liebert, J., Cutri, R. M., & Skrutskie, M. F. 1999, ApJ, 522, L65

Burgasser, A. J., Kirkpatrick, J. D., Burrows, A., Liebert, J., Reid, I. N., Gizis, J. E., McGovern, M. R., Prato, L., & McLean, I. S. 2003a, ApJ, 592, 1186

Burgasser, A. J., Kirkpatrick, J. D., Cruz, K. L., Reid, I. N., Leggett, S. K., Liebert, J., Burrows, A., & Brown, M. E. 2006b, ApJS, 166, 585

Burgasser, A. J., Kirkpatrick, J. D., Cutri, R. M., McCallon, H., Kopan, G., Gizis, J. E., Liebert, J., Reid, I. N., Brown, M. E., Monet, D. G., Dahn, C. C., Beichman, C. A., & Skrutskie, M. F. 2000a, ApJ, 531, L57

Burgasser, A. J., Kirkpatrick, J. D., McElwain, M. W., Cutri, R. M., Burgasser, A. J., & Skrutskie, M. F. 2003b, AJ, 125, 850

Burgasser, A. J., Looper, D. L., Kirkpatrick, J. D., Cruz, K. L., & Swift, B. J. 2007a, ArXiv e-prints, 710

—. 2008a, ApJ, 674, 451, [B08]

Burgasser, A. J., Looper, D. L., Kirkpatrick, J. D., & Liu, M. C. 2007b, ApJ, 658, 557

Burgasser, A. J. & McElwain, M. W. 2006, AJ, 131, 1007

Burgasser, A. J., McElwain, M. W., & Kirkpatrick, J. D. 2003c, AJ, 126, 2487

Burgasser, A. J., McElwain, M. W., Kirkpatrick, J. D., Cruz, K. L., Tinney, C. G., & Reid, I. N. 2004, AJ, 127, 2856

Burgasser, A. J., Vrba, F. J., Lépine, S., Munn, J. A., Luginbuhl, C. B., Henden, A. A., Guetter, H. H., & Canzian, B. C. 2008b, ApJ, 672, 1159

Burgasser, A. J., Wilson, J. C., Kirkpatrick, J. D., Skrutskie, M. F., Colonno, M. R., Enos, A. T., Smith, J. D., Henderson, C. P., Gizis, J. E., Brown, M. E., & Houck, J. R. 2000b, AJ, 120, 1100

Burrows, A., Hubbard, W. B., Lunine, J. I., Marley, M., Guillot, T., Saumon, D., & Freedman, R. S. 1997, in Astronomical Society of the Pacific Conference Series, Vol. 119, Planets Beyond the Solar System and the Next Generation of Space Missions, ed. D. Soderblom, 9–+

Burrows, A., Sudarsky, D., & Hubeny, I. 2006, ApJ, 640, 1063

Caballero, J. A. 2007, ApJ, 667, 520

Chauvin, G., Lagrange, A.-M., Dumas, C., Zuckerman, B., Mouillet, D., Song, I., Beuzit, J.-L., & Lowrance, P. 2004, A&A, 425, L29

Chauvin, G., Lagrange, A.-M., Lacombe, F., Dumas, C., Mouillet, D., Zuckerman, B., Gendron, E., Song, I., Beuzit, J.-L., Lowrance, P., & Fusco, T. 2005, A&A, 430, 1027

Chiba, M. & Beers, T. C. 2000, AJ, 119, 2843

Chiu, K., Fan, X., Leggett, S. K., Golimowski, D. A., Zheng, W., Geballe, T. R., Schneider, D. P., & Brinkmann, J. 2006, AJ, 131, 2722

Close, L. M., Siegler, N., Freed, M., & Biller, B. 2003, ApJ, 587, 407

Costa, E., Méndez, R. A., Jao, W.-C., Henry, T. J., Subasavage, J. P., Brown, M. A., Ianna, P. A., & Bartlett, J. 2005, AJ, 130, 337

Costa, E., Méndez, R. A., Jao, W.-C., Henry, T. J., Subasavage, J. P., & Ianna, P. A. 2006, AJ, 132, 1234

Covey, K. R., Hawley, S. L., Bochanski, J. J., West, A. A., Reid, I. N., Golimowski, D. A., Davenport, J. R. A., Henry, T., & Uomoto, A. 2008, ArXiv e-prints, 807

Covey, K. R., Ivezić, Ž., Schlegel, D., Finkbeiner, D., Padmanabhan, N., Lupton, R. H., Agüeros, M. A., Bochanski, J. J., Hawley, S. L., West, A. A., Seth, A., Kimball, A., Gogarten, S. M., Claire, M., Haggard, D., Kaib, N., Schneider, D. P., & Sesar, B. 2007, AJ, 134, 2398

Cruz, K. L. & Reid, I. N. 2002, AJ, 123, 2828

Cruz, K. L., Reid, I. N., Kirkpatrick, J. D., Burgasser, A. J., Liebert, J., Solomon, A. R., Schmidt, S. J., Allen, P. R., Hawley, S. L., & Covey, K. R. 2007, AJ, 133, 439

Cruz, K. L., Reid, I. N., Liebert, J., Kirkpatrick, J. D., & Lowrance, P. J. 2003, AJ, 126, 2421

Cushing, M. C., Marley, M. S., Saumon, D., Kelly, B. C., Vacca, W. D., Rayner, J. T., Freedman, R. S., Lodders, K., & Roellig, T. L. 2008, ApJ, 678, 1372

Dahn, C. C., Harris, H. C., Vrba, F. J., Guetter, H. H., Canzian, B., Henden, A. A., Levine, S. E., Luginbuhl, C. B., Monet, A. K. B., Monet, D. G., Pier, J. R., Stone, R. C., Walker, R. L., Burgasser, A. J., Gizis, J. E., Kirkpatrick, J. D., Liebert, J., & Reid, I. N. 2002, AJ, 124, 1170

Deacon, N. R. & Hambly, N. C. 2007, A&A, 468, 163

Deacon, N. R., Hambly, N. C., & Cooke, J. A. 2005, A&A, 435, 363

Dehnen, W. & Binney, J. J. 1998, MNRAS, 298, 387

Delfosse, X., Forveille, T., Martín, E. L., Guibert, J., Borsenberger, J., Crifo, F., Alard, C., Epchtein, N., Fouqué, P., Simon, G., & Tajahmady, F. 2001, A&A, 366, L13

Delfosse, X., Tinney, C. G., Forveille, T., Epchtein, N., Bertin, E., Borsenberger, J., Copet, E., de Batz, B., Fouque, P., Kimeswenger, S., Le Bertre, T., Lacombe, F., Rouan, D., & Tiphene, D. 1997, A&A, 327, L25

Delfosse, X., Tinney, C. G., Forveille, T., Epchtein, N., Borsenberger, J., Fouqué, P., Kimeswenger, S., & Tiphène, D. 1999, A&AS, 135, 41

Ellis, S. C., Tinney, C. G., Burgasser, A. J., Kirkpatrick, J. D., & McElwain, M. W. 2005, AJ, 130, 2347

Epchtein, N., de Batz, B., Capoani, L., Chevallier, L., Copet, E., Fouqué, P., Lacombe, P., Le Bertre, T., Pau, S., Rouan, D., Ruphy, S., Simon, G., Tiphène, D., Burton, W. B., Bertin, E., Deul, E., Habing, H., Borsenberger, J., Dennefeld, M., Guglielmo, F., Loup, C., Mamon, G., Ng, Y., Omont, A., Provost, L., Renault, J.-C., Tanguy, F., Kimeswenger, S., Kienel, C., Garzon, F., Persi, P., Ferrari-Toniolo, M., Robin, A., Paturel, G., Vauglin, I., Forveille, T., Delfosse, X., Hron, J., Schultheis, M., Appenzeller, I., Wagner, S., Balazs, L., Holl, A., Lépine, J., Boscolo, P., Picazzio, E., Duc, P.-A., & Mennessier, M.-O. 1997, The Messenger, 87, 27

EROS Collaboration, Goldman, B., Delfosse, X., Forveille, T., Afonso, C., Alard, C., Albert, J. N., Andersen, J., Ansari, R., Aubourg, É., Bareyre, P., Bauer, F., Beaulieu, J. P., Borsenberger, J., Bouquet, A., Char, S., Charlot, X., Couchot, F., Coutures, C., Derue, F., Ferlet, R., Fouqué, P., Glicenstein, J. F., Gould, A., Graff, D., Gros, M., Haissinski, J., Hamilton, J. C., Hardin, D., de Kat, J., Kim, A., Lasserre, T., Lesquoy, É., Loup, C., Magneville, C., Mansoux, B., Marquette, J. B., Martín, E. L., Maurice, É., Milsztajn, A., Moniez, M., Palanque-Delabrouille, N., Perdereau, O., Prévot, L., Regnault, N., Rich, J., Spiro, M., Vidal-Madjar, A., Vigroux, L., & Zylberajch, S. 1999, A&A, 351, L5

Famaey, B., Jorissen, A., Luri, X., Mayor, M., Udry, S., Dejonghe, H., & Turon, C. 2005, A&A, 430, 165

Fan, X., Knapp, G. R., Strauss, M. A., Gunn, J. E., Lupton, R. H., Ivezić, Ž., Rockosi, C. M., Yanny, B., Kent, S., Schneider, D. P., Kirkpatrick, J. D., Annis, J., Bastian, S., Berman, E., Brinkmann, J., Csabai, I., Federwitz, G. R., Fukugita, M., Gurbani, V. K., Hennessy, G. S., Hindsley, R. B., Ichikawa, T., Lamb, D. Q., Lindenmeyer, C., Mantsch, P. M., McKay, T. A., Munn, J. A., Nash, T., Okamura, S., Pauls, A. G., Pier, J. R., Rechenmacher, R., Rivetta, C. H., Sergey, G., Stoughton, C., Szalay, A. S., Szokoly, G. P., Tucker, D. L., York, D. G., & The SDSS Collaboration. 2000, AJ, 119, 928

Folkes, S. L., Pinfield, D. J., Kendall, T. R., & Jones, H. R. A. 2007, MNRAS, 378, 901

Forveille, T., Beuzit, J.-L., Delorme, P., Ségransan, D., Delfosse, X., Chauvin, G., Fusco, T., Lagrange, A.-M., Mayor, M., Montagnier, G., Mouillet, D., Perrier, C., Udry, S., Charton, J., Gigan, P., Conan, J.-M., Kern, P., & Michet, G. 2005, A&A, 435, L5

Geballe, T. R., Knapp, G. R., Leggett, S. K., Fan, X., Golimowski, D. A., Anderson, S., Brinkmann, J., Csabai, I., Gunn, J. E., Hawley, S. L., Hennessy, G., Henry, T. J., Hill, G. J., Hindsley, R. B., Ivezić, Ž., Lupton, R. H., McDaniel, A., Munn, J. A., Narayanan, V. K., Peng, E., Pier, J. R., Rockosi, C. M., Schneider, D. P., Smith, J. A., Strauss, M. A., Tsvetanov, Z. I., Uomoto, A., York, D. G., & Zheng, W. 2002, ApJ, 564, 466

Gilmore, G. & Reid, N. 1983, MNRAS, 202, 1025

Gilmore, G., Wyse, R. F. G., & Kuijken, K. 1989, ARA&A, 27, 555

Gizis, J. E. 2002, ApJ, 575, 484

Gizis, J. E. & Harvin, J. 2006, AJ, 132, 2372

Gizis, J. E., Jao, W.-C., Subasavage, J. P., & Henry, T. J. 2007, ApJ, 669, L45

Gizis, J. E., Kirkpatrick, J. D., & Wilson, J. C. 2001, AJ, 121, 2185

Gizis, J. E., Monet, D. G., Reid, I. N., Kirkpatrick, J. D., Liebert, J., & Williams, R. J. 2000, AJ, 120, 1085

Gizis, J. E., Reid, I. N., Knapp, G. R., Liebert, J., Kirkpatrick, J. D., Koerner, D. W., & Burgasser, A. J. 2003, AJ, 125, 3302

Golimowski, D. A., Leggett, S. K., Marley, M. S., Fan, X., Geballe, T. R., Knapp, G. R., Vrba, F. J., Henden, A. A., Luginbuhl, C. B., Guetter, H. H., Munn, J. A., Canzian, B., Zheng, W., Tsvetanov, Z. I., Chiu, K., Glazebrook, K., Hoversten, E. A., Schneider, D. P., & Brinkmann, J. 2004, AJ, 127, 3516

Hall, P. B. 2002, ApJ, 580, L77

Hambly, N. C., Davenhall, A. C., Irwin, M. J., & MacGillivray, H. T. 2001, MNRAS, 326, 1315

Hambly, N. C., Henry, T. J., Subasavage, J. P., Brown, M. A., & Jao, W.-C. 2004, AJ, 128, 437

Hänninen, J. & Flynn, C. 2002, MNRAS, 337, 731

Hawkins, M. R. S. & Bessell, M. S. 1988, MNRAS, 234, 177

Hawley, S. L., Covey, K. R., Knapp, G. R., Golimowski, D. A., Fan, X., Anderson, S. F., Gunn, J. E., Harris, H. C., Ivezić, Ž., Long, G. M., Lupton, R. H., McGehee, P. M., Narayanan, V., Peng, E., Schlegel, D., Schneider, D. P., Spahn, E. Y., Strauss, M. A., Szkody, P., Tsvetanov, Z., Walkowicz, L. M., Brinkmann, J., Harvanek, M., Hennessy, G. S., Kleinman, S. J., Krzesinski, J., Long, D., Neilsen, E. H., Newman, P. R., Nitta, A., Snedden, S. A., & York, D. G. 2002, AJ, 123, 3409

Hayashi, C. & Nakano, T. 1963, Progress of Theoretical Physics, 30, 460

Henry, T. J., Jao, W.-C., Subasavage, J. P., Beaulieu, T. D., Ianna, P. A., Costa, E., & Méndez, R. A. 2006, AJ, 132, 2360

Henry, T. J., Subasavage, J. P., Brown, M. A., Beaulieu, T. D., Jao, W.-C., & Hambly, N. C. 2004, AJ, 128, 2460

Irwin, M., McMahon, R. G., & Reid, N. 1991, MNRAS, 252, 61P

Iwanowska, W. 1980, Ap&SS, 73, 435

Jameson, R. F., Casewell, S. L., Bannister, N. P., Lodieu, N., Keresztes, K., Dobbie, P. D., & Hodgkin, S. T. 2007, ArXiv e-prints, 710, [J07]

Jameson, R. F., Lodieu, N., Casewell, S. L., Bannister, N. P., & Dobbie, P. D. 2008, MNRAS, 385, 1771

Kendall, T. R., Delfosse, X., Martín, E. L., & Forveille, T. 2004, A&A, 416, L17

Kendall, T. R., Mauron, N., Azzopardi, M., & Gigoyan, K. 2003, A&A, 403, 929

Kendall, T. R., Tamura, M., Tinney, C. G., Martín, E. L., Ishii, M., Pinfield, D. J., Lucas, P. W., Jones, H. R. A., Leggett, S. K., Dye, S., Hewett, P. C., Allard, F., Baraffe, I., Barrado Y Navascués, D., Carraro, G., Casewell, S. L., Chabrier, G., Chappelle, R. J., Clarke, F., Day-Jones, A., Deacon, N., Dobbie, P. D., Folkes, S., Hambly, N. C., Hodgkin, S. T., Nakajima, T., Jameson, R. F., Lodieu, N., Magazzù, A., McCaughrean, M. J., Pavlenko, Y. V., Tadashi, N., & Zapatero Osorio, M. R. 2007, A&A, 466, 1059

Kharchenko, N. V., Piskunov, A. E., & Scholz, R.-D. 2004, VizieR Online Data Catalog, 3239, 0

Kirkpatrick, J. D. 2005, ARA&A, 43, 195

Kirkpatrick, J. D., Barman, T. S., Burgasser, A. J., McGovern, M. R., McLean, I. S., Tinney, C. G., & Lowrance, P. J. 2006, ApJ, 639, 1120

Kirkpatrick, J. D., Beichman, C. A., & Skrutskie, M. F. 1997, ApJ, 476, 311

Kirkpatrick, J. D., Henry, T. J., & Liebert, J. 1993, ApJ, 406, 701

Kirkpatrick, J. D., Henry, T. J., & McCarthy, Jr., D. W. 1991, ApJS, 77, 417

Kirkpatrick, J. D., Liebert, J., Cruz, K. L., Gizis, J. E., & Reid, I. N. 2001, PASP, 113, 814

Kirkpatrick, J. D., McGraw, J. T., Hess, T. R., Liebert, J., & McCarthy, Jr., D. W. 1994, ApJS, 94, 749

Kirkpatrick, J. D., Reid, I. N., Liebert, J., Cutri, R. M., Nelson, B., Beichman, C. A., Dahn, C. C., Monet, D. G., Gizis, J. E., & Skrutskie, M. F. 1999, ApJ, 519, 802

Kirkpatrick, J. D., Reid, I. N., Liebert, J., Gizis, J. E., Burgasser, A. J., Monet, D. G., Dahn, C. C., Nelson, B., & Williams, R. J. 2000, AJ, 120, 447

Knapp, G. R., Leggett, S. K., Fan, X., Marley, M. S., Geballe, T. R., Golimowski, D. A., Finkbeiner, D., Gunn, J. E., Hennawi, J., Ivezić, Z., Lupton, R. H., Schlegel, D. J., Strauss, M. A., Tsvetanov, Z. I., Chiu, K., Hoversten, E. A., Glazebrook, K., Zheng, W., Hendrickson, M., Williams, C. C., Uomoto, A., Vrba, F. J., Henden, A. A., Luginbuhl, C. B., Guetter, H. H., Munn, J. A., Canzian, B., Schneider, D. P., & Brinkmann, J. 2004, AJ, 127, 3553

Kumar, S. S. 1962, AJ, 67, 579

Law, N. M., Hodgkin, S. T., & Mackay, C. D. 2006, MNRAS, 368, 1917

Leggett, S. K., Allard, F., Dahn, C., Hauschildt, P. H., Kerr, T. H., & Rayner, J. 2000, ApJ, 535, 965

Lépine, S., Rich, R. M., & Shara, M. M. 2003, ApJ, 591, L49

Lépine, S., Shara, M. M., & Rich, R. M. 2002, AJ, 124, 1190

Liebert, J. & Gizis, J. E. 2006, PASP, 118, 659

Liebert, J., Kirkpatrick, J. D., Cruz, K. L., Reid, I. N., Burgasser, A., Tinney, C. G., & Gizis, J. E. 2003, AJ, 125, 343

Lindblad, B. 1925, ApJ, 62, 191

Linsky, J. L. 1969, ApJ, 156, 989

Liu, M. C., Fischer, D. A., Graham, J. R., Lloyd, J. P., Marcy, G. W., & Butler, R. P. 2002, ApJ, 571, 519

Liu, M. C., Leggett, S. K., Golimowski, D. A., Chiu, K., Fan, X., Geballe, T. R., Schneider, D. P., & Brinkmann, J. 2006, ApJ, 647, 1393

Lodieu, N., Scholz, R.-D., & McCaughrean, M. J. 2002, A&A, 389, L20

Lodieu, N., Scholz, R.-D., McCaughrean, M. J., Ibata, R., Irwin, M., & Zinnecker, H. 2005, A&A, 440, 1061

Looper, D. L., Kirkpatrick, J. D., & Burgasser, A. J. 2007, AJ, 134, 1162

Looper, D. L., Kirkpatrick, J. D., Cutri, R. M., Barman, T., Burgasser, A. J., Cushing, M. C., Roellig, T., McGovern, M. R., McLean, I. S., Rice, E., Swift, B. J., & Schurr, S. D. 2008, ArXiv e-prints, 806

Luhman, K. L., Patten, B. M., Marengo, M., Schuster, M. T., Hora, J. L., Ellis, R. G., Stauffer, J. R., Sonnett, S. M., Winston, E., Gutermuth, R. A., Megeath, S. T., Backman, D. E., Henry, T. J., Werner, M. W., & Fazio, G. G. 2007, ApJ, 654, 570

Luhman, K. L. & Rieke, G. H. 1999, ApJ, 525, 440

Luyten, W. J. 1973, in IAU Symposium, Vol. 54, Problems of Calibration of Absolute Magnitudes and Temperature of Stars, ed. B. Hauck & B. E. Westerlund, 11–+

Luyten, W. J. 1979, LHS catalogue. A catalogue of stars with proper motions exceeding 0”5 annually (Minneapolis: University of Minnesota, 1979, 2nd ed.)

—. 1995, VizieR Online Data Catalog, 1098, 0

Martin, E. L., Brandner, W., & Basri, G. 1999, Science, 283, 1718

Martín, E. L., Brandner, W., Bouy, H., Basri, G., Davis, J., Deshpande, R., & Montgomery, M. M. 2006, A&A, 456, 253

Martín, E. L., Delfosse, X., Basri, G., Goldman, B., Forveille, T., & Zapatero Osorio, M. R. 1999, AJ, 118, 2466

Martín, E. L., Magazzù, A., Delfosse, X., & Mathieu, R. D. 2005, A&A, 429, 939

Martin, E. L., Rebolo, R., & Magazzu, A. 1994, ApJ, 436, 262

McElwain, M. W. & Burgasser, A. J. 2006, AJ, 132, 2074

McGovern, M. R., Kirkpatrick, J. D., McLean, I. S., Burgasser, A. J., Prato, L., & Lowrance, P. J. 2004, ApJ, 600, 1020

McLean, I. S., McGovern, M. R., Burgasser, A. J., Kirkpatrick, J. D., Prato, L., & Kim, S. S. 2003, ApJ, 596, 561

Ménard, F., Delfosse, X., & Monin, J.-L. 2002, A&A, 396, L35

Metchev, S. A. & Hillenbrand, L. A. 2004, ApJ, 617, 1330

—. 2006, ApJ, 651, 1166

Mohanty, S. & Basri, G. 2003, ApJ, 583, 451

Mohanty, S., Jayawardhana, R., & Basri, G. 2004, ApJ, 609, 885

Monet, D. G., Dahn, C. C., Vrba, F. J., Harris, H. C., Pier, J. R., Luginbuhl, C. B., & Ables, H. D. 1992, AJ, 103, 638

Mugrauer, M., Seifahrt, A., Neuhäuser, R., & Mazeh, T. 2006, MNRAS, 373, L31

Nakajima, T., Oppenheimer, B. R., Kulkarni, S. R., Golimowski, D. A., Matthews, K., & Durrance, S. T. 1995, Nature, 378, 463

Neuhäuser, R., Guenther, E. W., Wuchterl, G., Mugrauer, M., Bedalov, A., & Hauschildt, P. H. 2005, A&A, 435, L13

Nordström, B., Mayor, M., Andersen, J., Holmberg, J., Pont, F., Jørgensen, B. R., Olsen, E. H., Udry, S., & Mowlavi, N. 2004, A&A, 418, 989

Oort, J. H. 1927, Bull. Astron. Inst. Netherlands, 4, 79

Osorio, M. R. Z., Martín, E. L., Béjar, V. J. S., Bouy, H., Deshpande, R., & Wainscoat, R. J. 2007, ApJ, 666, 1205, [Os07]

Perryman, M. A. C., Lindegren, L., Kovalevsky, J., Hoeg, E., Bastian, U., Bernacca, P. L., Crézé, M., Donati, F., Grenon, M., van Leeuwen, F., van der Marel, H., Mignard, F., Murray, C. A., Le Poole, R. S., Schrijver, H., Turon, C., Arenou, F., Froeschlé, M., & Petersen, C. S. 1997, A&A, 323, L49

Phan-Bao, N., Bessell, M. S., Martín, E. L., Simon, G., Borsenberger, J., Tata, R., Guibert, J., Crifo, F., Forveille, T., Delfosse, X., Lim, J., & de Batz, B. 2008, MNRAS, 383, 831

Phan-Bao, N., Bessell, M. S., Martín, E. L., Simon, G., Guibert, J., Forveille, T., Delfosse, X., Crifo, F., Epchtein, N., Wood, P., & Tajahmady, F. 2006, MNRAS, 366, L40

Phan-Bao, N., Crifo, F., Delfosse, X., Forveille, T., Guibert, J., Borsenberger, J., Epchtein, N., Fouqué, P., Simon, G., & Vetois, J. 2003, A&A, 401, 959

Phan-Bao, N., Guibert, J., Crifo, F., Delfosse, X., Forveille, T., Borsenberger, J., Epchtein, N., Fouqué, P., & Simon, G. 2001, A&A, 380, 590

Potter, D., Martín, E. L., Cushing, M. C., Baudoz, P., Brandner, W., Guyon, O., & Neuhäuser, R. 2002, ApJ, 567, L133

Probst, R. G. & Liebert, J. 1983, ApJ, 274, 245

Rebolo, R., Zapatero Osorio, M. R., Madruga, S., Bejar, V. J. S., Arribas, S., & Licandro, J. 1998, Science, 282, 1309

Reid, I. N. & Cruz, K. L. 2002, AJ, 123, 2806

Reid, I. N., Cruz, K. L., Burgasser, A. J., & Liu, M. C. 2008, AJ, 135, 580

Reid, I. N. & Hawley, S. L. 2005, New light on dark stars : red dwarfs, low-mass stars, brown dwarfs (New Light on Dark Stars Red Dwarfs, Low-Mass Stars, Brown Stars, by I.N. Reid and S.L. Hawley. Springer-Praxis books in astrophysics and astronomy. Praxis Publishing Ltd, 2005. ISBN 3-540-25124-3)

Reid, I. N., Kirkpatrick, J. D., Gizis, J. E., Dahn, C. C., Monet, D. G., Williams, R. J., Liebert, J., & Burgasser, A. J. 2000, AJ, 119, 369

Reid, I. N., Kirkpatrick, J. D., Liebert, J., Burrows, A., Gizis, J. E., Burgasser, A., Dahn, C. C., Monet, D., Cutri, R., Beichman, C. A., & Skrutskie, M. 1999, ApJ, 521, 613

Reid, I. N., Lewitus, E., Allen, P. R., Cruz, K. L., & Burgasser, A. J. 2006, AJ, 132, 891

Reid, I. N. & Gilmore, G. 1981, MNRAS, 196, 15P

Reid, N., Tinney, C. G., & Mould, J. 1994, AJ, 108, 1456

Reylé, C. & Robin, A. C. 2004, A&A, 421, 643

Ruiz, M. T., Leggett, S. K., & Allard, F. 1997, ApJ, 491, L107+

Ruiz, M. T., Wischnjewsky, M., Rojo, P. M., & Gonzalez, L. E. 2001, ApJS, 133, 119

Salim, S., Lépine, S., Rich, R. M., & Shara, M. M. 2003, ApJ, 586, L149

Saumon, D., Bergeron, P., Lunine, J. I., Hubbard, W. B., & Burrows, A. 1994, ApJ, 424, 333

Saumon, D., Marley, M. S., Leggett, S. K., Geballe, T. R., Stephens, D., Golimowski, D. A., Cushing, M. C., Fan, X., Rayner, J. T., Lodders, K., & Freedman, R. S. 2007, ApJ, 656, 1136

Schmidt, S. J., Cruz, K. L., Bongiorno, B. J., Liebert, J., & Reid, I. N. 2007, AJ, 133, 2258

Schneider, D. P., Greenstein, J. L., Schmidt, M., & Gunn, J. E. 1991, AJ, 102, 1180

Schneider, D. P., Knapp, G. R., Hawley, S. L., Covey, K. R., Fan, X., Ramsey, L. W., Richards, G. T., Strauss, M. A., Gunn, J. E., Hill, G. J., MacQueen, P. J., Adams, M. T., Hill, G. M., Ivezić, Ž., Lupton, R. H., Pier, J. R., Saxe, D. H., Shetrone, M., Tufts, J. R., Wolf, M. J., Brinkmann, J., Csabai, I., Hennessy, G. S., & York, D. G. 2002, AJ, 123, 458

Scholz, R.-D., Irwin, M., Ibata, R., Jahreiß, H., & Malkov, O. Y. 2000, A&A, 353, 958

Scholz, R.-D., McCaughrean, M. J., Lodieu, N., & Kuhlbrodt, B. 2003, A&A, 398, L29

Scholz, R.-D., McCaughrean, M. J., Zinnecker, H., & Lodieu, N. 2005, A&A, 430, L49

Scholz, R.-D. & Meusinger, H. 2002, MNRAS, 336, L49

Schwarzschild, K. 1908, Nachr. Königlichen Ges. Wiss Göttingen, 191

Siegler, N., Close, L. M., Burgasser, A. J., Cruz, K. L., Marois, C., Macintosh, B., & Barman, T. 2007, AJ, 133, 2320

Siegler, N., Close, L. M., Mamajek, E. E., & Freed, M. 2003, ApJ, 598, 1265

Skrutskie, M. F., Cutri, R. M., Stiening, R., Weinberg, M. D., Schneider, S., Carpenter, J. M., Beichman, C., Capps, R., Chester, T., Elias, J., Huchra, J., Liebert, J., Lonsdale, C., Monet, D. G., Price, S., Seitzer, P., Jarrett, T., Kirkpatrick, J. D., Gizis, J. E., Howard, E., Evans, T., Fowler, J., Fullmer, L., Hurt, R., Light, R., Kopan, E. L., Marsh, K. A., McCallon, H. L., Tam, R., Van Dyk, S., & Wheelock, S. 2006, AJ, 131, 1163

Soubiran, C., Bienaymé, O., & Siebert, A. 2003, A&A, 398, 141

Stephens, D. C. & Leggett, S. K. 2004, PASP, 116, 9

Stern, D., Kirkpatrick, J. D., Allen, L. E., Bian, C., Blain, A., Brand, K., Brodwin, M., Brown, M. J. I., Cool, R., Desai, V., Dey, A., Eisenhardt, P., Gonzalez, A., Jannuzi, B. T., Menendez-Delmestre, K., Smith, H. A., Soifer, B. T., Tiede, G. P., & Wright, E. 2007, ApJ, 663, 677

Strauss, M. A., Fan, X., Gunn, J. E., Leggett, S. K., Geballe, T. R., Pier, J. R., Lupton, R. H., Knapp, G. R., Annis, J., Brinkmann, J., Crocker, J. H., Csabai, I., Fukugita, M., Golimowski, D. A., Harris, F. H., Hennessy, G. S., Hindsley, R. B., Ivezić , Ž., Kent, S., Lamb, D. Q., Munn, J. A., Newberg, H. J., Rechenmacher, R., Schneider, D. P., Smith, J. A., Stoughton, C., Tucker, D. L., Waddell, P., & York, D. G. 1999, ApJ, 522, L61

Teegarden, B. J., Pravdo, S. H., Hicks, M., Lawrence, K., Shaklan, S. B., Covey, K., Fraser, O., Hawley, S. L., McGlynn, T., & Reid, I. N. 2003, ApJ, 589, L51

Teixeira, R., Ducourant, C., Sartori, M. J., Camargo, J. I. B., Périé, J. P., Lépine, J. R. D., & Benevides-Soares, P. 2000, A&A, 361, 1143

Thorstensen, J. R. & Kirkpatrick, J. D. 2003, PASP, 115, 1207

Tinney, C. G. 1996, MNRAS, 281, 644

Tinney, C. G., Burgasser, A. J., & Kirkpatrick, J. D. 2003, AJ, 126, 975

Tinney, C. G., Burgasser, A. J., Kirkpatrick, J. D., & McElwain, M. W. 2005, AJ, 130, 2326

Tinney, C. G., Delfosse, X., Forveille, T., & Allard, F. 1998, A&A, 338, 1066

Tinney, C. G., Mould, J. R., & Reid, I. N. 1993, AJ, 105, 1045

Tsvetanov, Z. I., Golimowski, D. A., Zheng, W., Geballe, T. R., Leggett, S. K., Ford, H. C., Davidsen, A. F., Uomoto, A., Fan, X., Knapp, G. R., Strauss, M. A., Brinkmann, J., Lamb, D. Q., Newberg, H. J., Rechenmacher, R., Schneider, D. P., York, D. G., Lupton, R. H., Pier, J. R., Annis, J., Csabai, I., Hindsley, R. B., Ivesić, Ž., Munn, J. A., Thakar, A. R., & Waddell, P. 2000, ApJ, 531, L61

van Altena, W. F., Lee, J. T., & Hoffleit, E. D. 1995, The general catalogue of trigonometric [stellar] paralaxes (New Haven, CT: Yale University Observatory, —c1995, 4th ed., completely revised and enlarged)

Vrba, F. J., Henden, A. A., Luginbuhl, C. B., Guetter, H. H., Munn, J. A., Canzian, B., Burgasser, A. J., Kirkpatrick, J. D., Fan, X., Geballe, T. R., Golimowski, D. A., Knapp, G. R., Leggett, S. K., Schneider, D. P., & Brinkmann, J. 2004, AJ, 127, 2948

West, A. A., Bochanski, J. J., Hawley, S. L., Cruz, K. L., Covey, K. R., Silvestri, N. M., Reid, I. N., & Liebert, J. 2006, AJ, 132, 2507

West, A. A., Hawley, S. L., Bochanski, J. J., Covey, K. R., Reid, I. N., Dhital, S., Hilton, E. J., & Masuda, M. 2008, AJ, 135, 785

West, A. A., Walkowicz, L. M., & Hawley, S. L. 2005, PASP, 117, 706

Wielen, R. 1977, A&A, 60, 263

Wilson, J. C. 2002, PhD thesis, AA(CORNELL UNIVERSITY)

Wilson, J. C., Kirkpatrick, J. D., Gizis, J. E., Skrutskie, M. F., Monet, D. G., & Houck, J. R. 2001, AJ, 122, 1989

Wilson, J. C., Miller, N. A., Gizis, J. E., Skrutskie, M. F., Houck, J. R., Kirkpatrick, J. D., Burgasser, A. J., & Monet, D. G. 2003, in IAU Symposium, Vol. 211, Brown Dwarfs, ed. E. Martín, 197–+

York, D. G., Adelman, J., Anderson, Jr., J. E., Anderson, S. F., Annis, J., Bahcall, N. A., Bakken, J. A., Barkhouser, R., Bastian, S., Berman, E., Boroski, W. N., Bracker, S., Briegel, C., Briggs, J. W., Brinkmann, J., Brunner, R., Burles, S., Carey, L., Carr, M. A., Castander, F. J., Chen, B., Colestock, P. L., Connolly, A. J., Crocker, J. H., Csabai, I., Czarapata, P. C., Davis, J. E., Doi, M., Dombeck, T., Eisenstein, D., Ellman, N., Elms, B. R., Evans, M. L., Fan, X., Federwitz, G. R., Fiscelli, L., Friedman, S., Frieman, J. A., Fukugita, M., Gillespie, B., Gunn, J. E., Gurbani, V. K., de Haas, E., Haldeman, M., Harris, F. H., Hayes, J., Heckman, T. M., Hennessy, G. S., Hindsley, R. B., Holm, S., Holmgren, D. J., Huang, C.-h., Hull, C., Husby, D., Ichikawa, S.-I., Ichikawa, T., Ivezić, Ž., Kent, S., Kim, R. S. J., Kinney, E., Klaene, M., Kleinman, A. N., Kleinman, S., Knapp, G. R., Korienek, J., Kron, R. G., Kunszt, P. Z., Lamb, D. Q., Lee, B., Leger, R. F., Limmongkol, S., Lindenmeyer, C., Long, D. C., Loomis, C., Loveday, J., Lucinio, R., Lupton, R. H., MacKinnon, B., Mannery, E. J., Mantsch, P. M., Margon, B., McGehee, P., McKay, T. A., Meiksin, A., Merelli, A., Monet, D. G., Munn, J. A., Narayanan, V. K., Nash, T., Neilsen, E., Neswold, R., Newberg, H. J., Nichol, R. C., Nicinski, T., Nonino, M., Okada, N., Okamura, S., Ostriker, J. P., Owen, R., Pauls, A. G., Peoples, J., Peterson, R. L., Petravick, D., Pier, J. R., Pope, A., Pordes, R., Prosapio, A., Rechenmacher, R., Quinn, T. R., Richards, G. T., Richmond, M. W., Rivetta, C. H., Rockosi, C. M., Ruthmansdorfer, K., Sandford, D., Schlegel, D. J., Schneider, D. P., Sekiguchi, M., Sergey, G., Shimasaku, K., Siegmund, W. A., Smee, S., Smith, J. A., Snedden, S., Stone, R., Stoughton, C., Strauss, M. A., Stubbs, C., SubbaRao, M., Szalay, A. S., Szapudi, I., Szokoly, G. P., Thakar, A. R., Tremonti, C., Tucker, D. L., Uomoto, A., Vanden Berk, D., Vogeley, M. S., Waddell, P., Wang, S.-i., Watanabe, M., Weinberg, D. H., Yanny, B., & Yasuda, N. 2000, AJ, 120, 1579

Zapatero Osorio, M. R., Béjar, V. J. S., Martín, E. L., Rebolo, R., Barrado y Navascués, D., Mundt, R., Eislöffel, J., & Caballero, J. A. 2002, ApJ, 578, 536

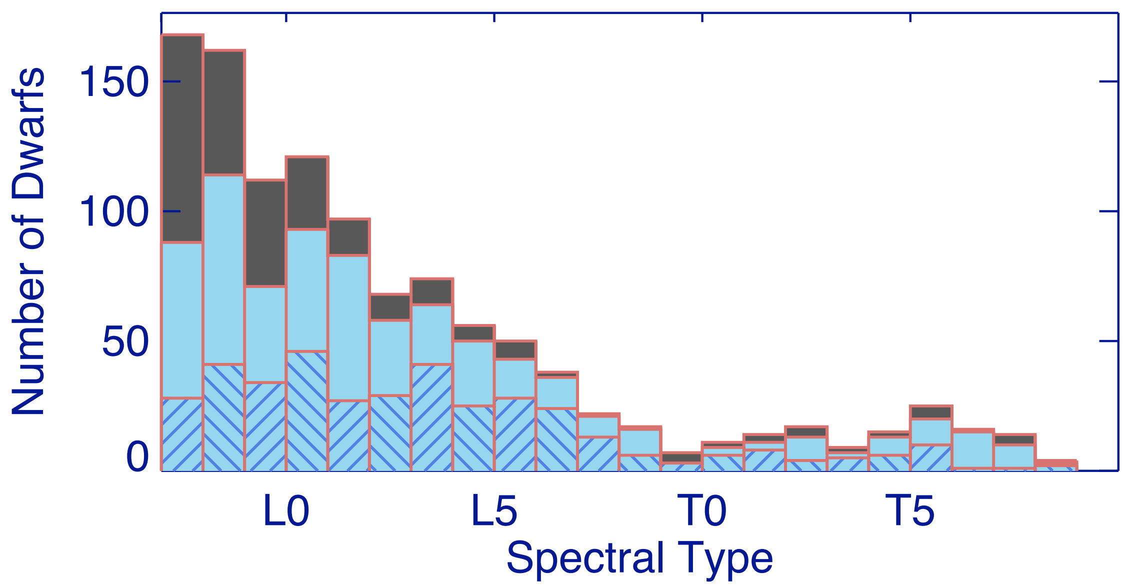

Fig. 1.— Spectral type distribution of all late-type M, L, and T dwarfs. The overall histogram is the distribution of all ultracool dwarfs in our sample. The blue shaded histogram shows ultracool dwarfs with proper motion measurements. The diagonally shaded histogram shows the distribution of ultracool dwarfs with new proper motions reported in this paper.

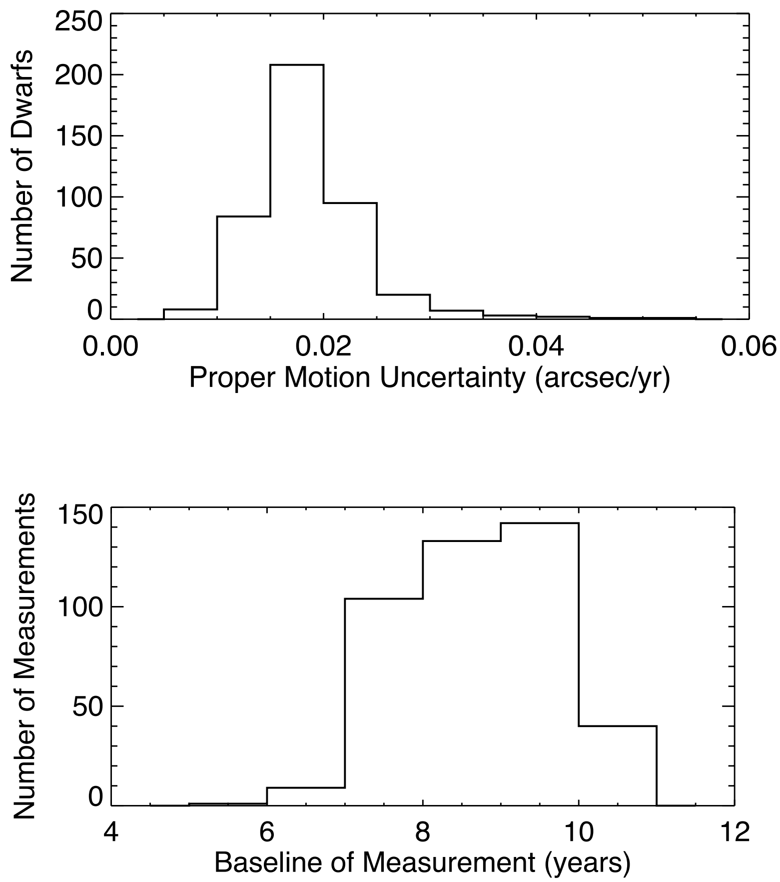

Fig. 2.— (Top): Distribution of proper motion uncertainties for the sample of 427 measurements reported in this paper. The median value is 18 mas/yr . (Bottom): Distribution of proper motion baselines (time between first and second epoch measurements) used in this survey.

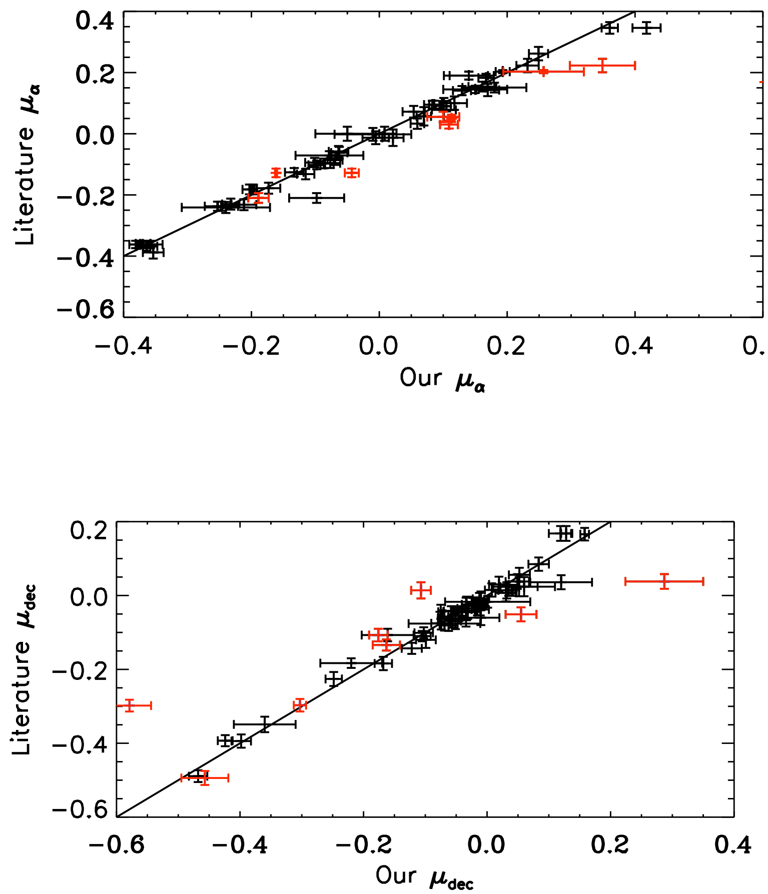

Fig. 3.— Comparison of Right Ascension (top) and Declination (bottom) proper motion measured in this paper and those measured in the literature. The straight line represents a perfect agreement between measurements. The red highlighted objects are the discrepant proper motion measurements (see Table 4.)

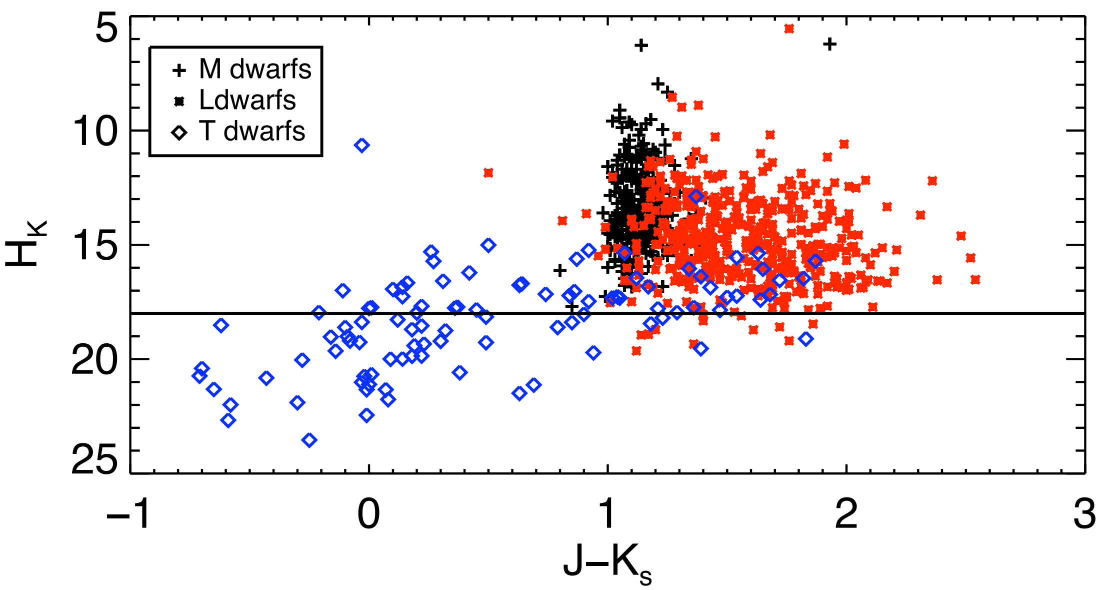

Fig. 4.— Reduced proper motion diagram using the 2MASS J and K_s magnitudes. Late-type M dwarfs are marked with a black plus sign, L dwarfs are marked as a red 5 point star and T dwarfs are marked as blue diamonds. The line at H_K of 18 marks where M dwarfs are segregated from the L and T dwarfs regardless of near-IR color. This cut-off will also include subdwarfs and cool white dwarfs but these objects will be rare.

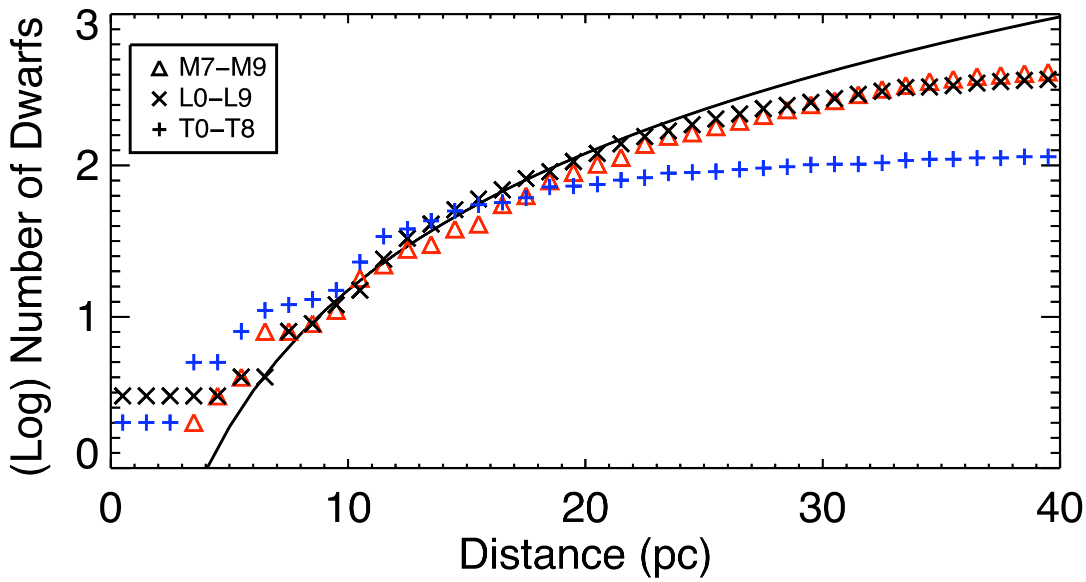

Fig. 5.— Cumulative distance distribution of all late-type M, L, and T dwarfs in our database. Triangles refer to the M7-M9 dwarfs, the 'X' symbols refer to all L0-L9 dwarfs and the plus symbols refer to all T0-T8 dwarfs. The solid line corresponds to a constant density distribution ($N \propto d^3$). The L and M dwarfs deviate from this distribution around 20 pc but the T dwarfs fall off closer to 15 pc.

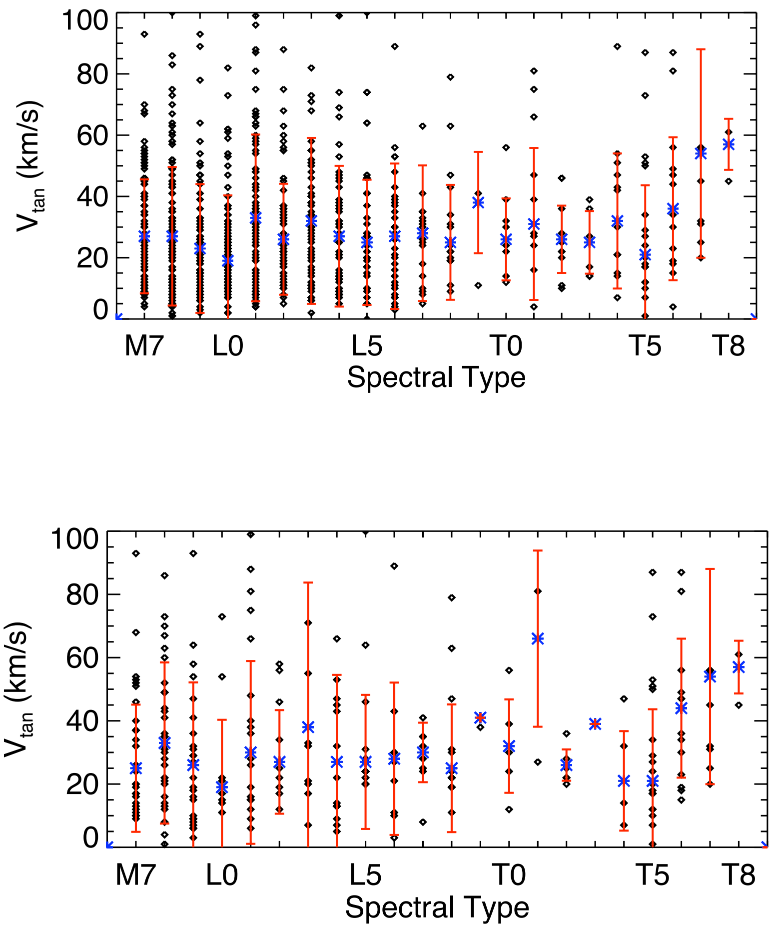

Fig. 6.— Distribution of V_{tan} values binned by spectral type. The top panel is the full astrometric sample and the bottom panel is the 20 pc sample. The asterisks refer to the median V_{tan} values and the vertical bars refer to the standard deviation or dispersion of velocities.

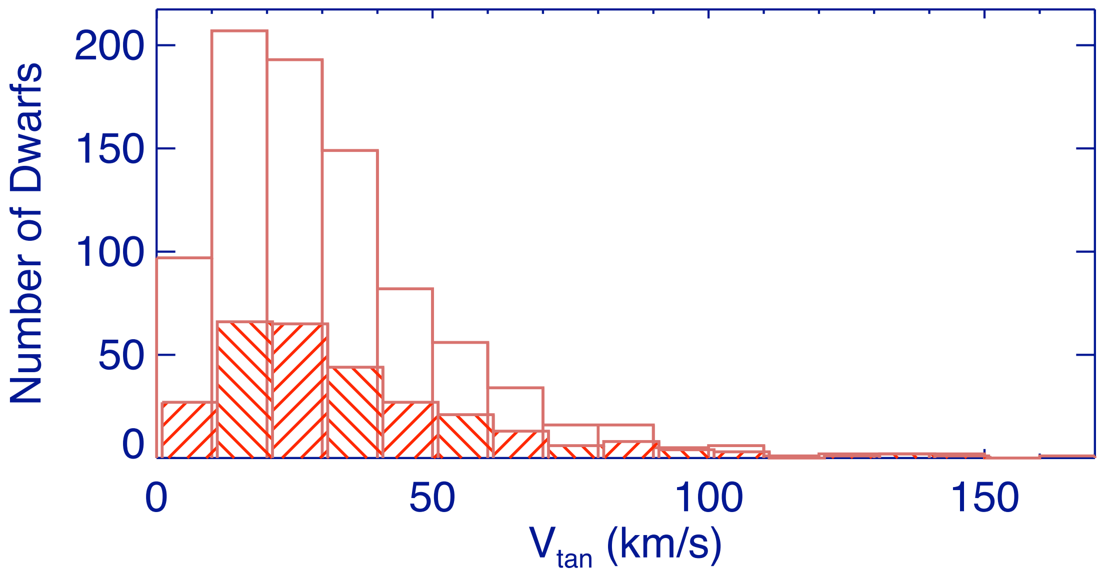

Fig. 7.— The overall histogram is the tangential velocity distribution for the entire sample and the diagonally shaded histogram is the 20 pc sample. Both V_{tan} distributions peak in the 10-30 km s^{-1} bins.

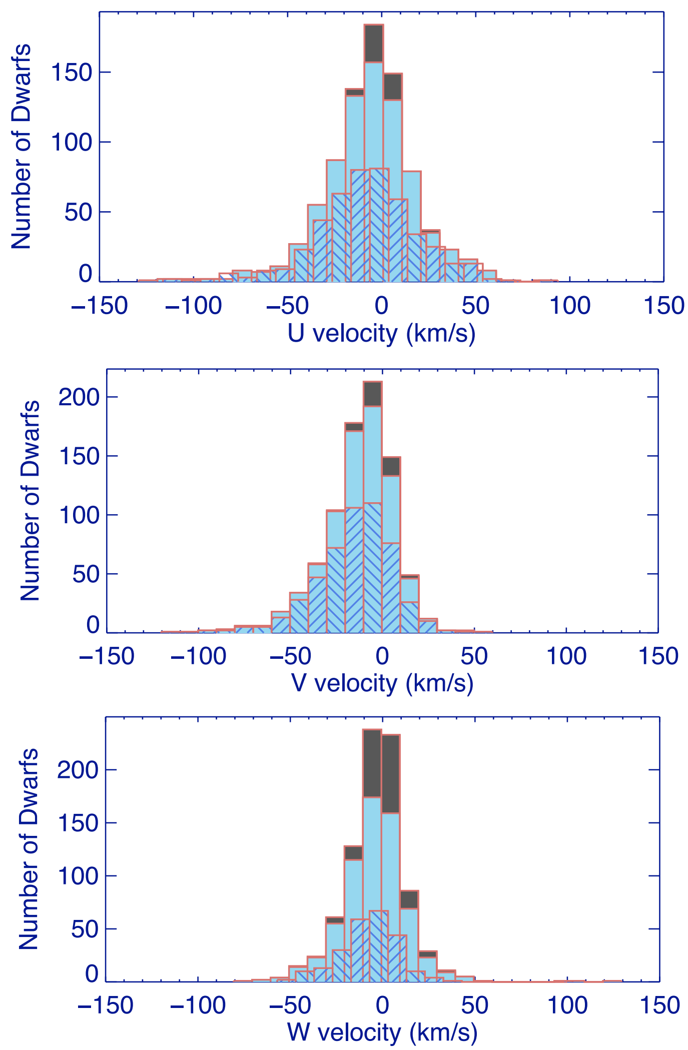

Fig. 8.— Histogram of U,V,W velocities. Plotted for each velocity is 1) each object in the astrometric sample (large histogram) 2) a 30 degree restriction on objects and 3) a 60 degree restriction (smallest histogram). The 30 and 60 degree restrictions are placed on the X,Y or Z axis and correspond to removing the U,V, or W velocity respectively for objects in cones of noted radius around the respective axis.

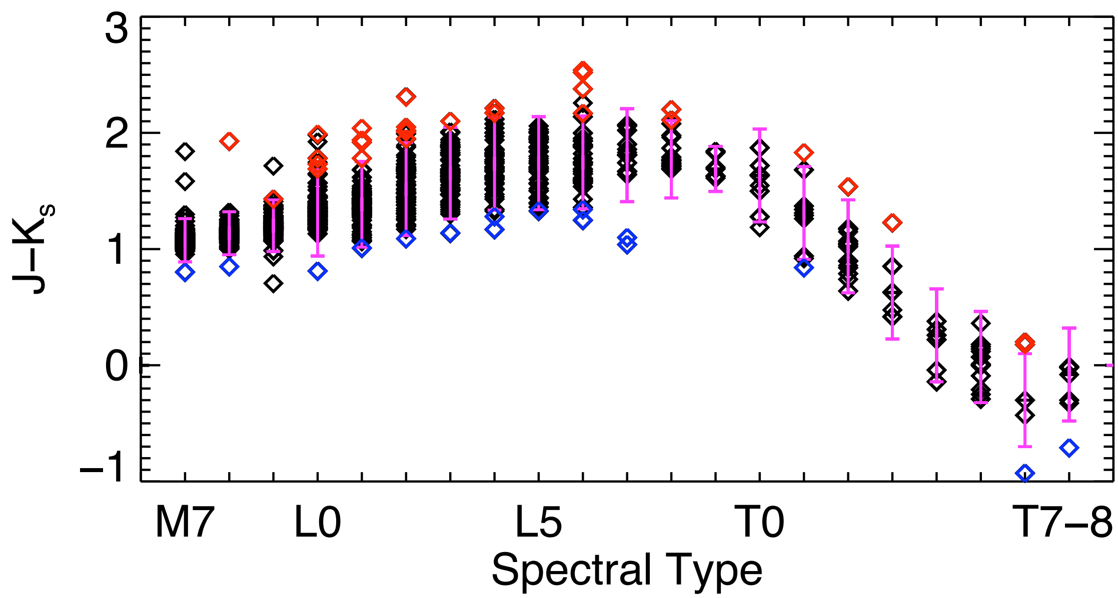

Fig. 9.— $J - K_s$ colors of late-type dwarfs. We compute the average values for each spectral type (binned by 1 subtype) from the 2MASS photometry of a select sample of dwarfs and then flag objects as photometric outliers when they are either twice the standard deviation of $J - K_s$ or 0.4 magnitude redder or bluer than the average value. Red symbols above the plotted range of $J - K_s$ colors are the red outliers and blue symbols below the plotted range of $J - K_s$ colors are the blue outliers.

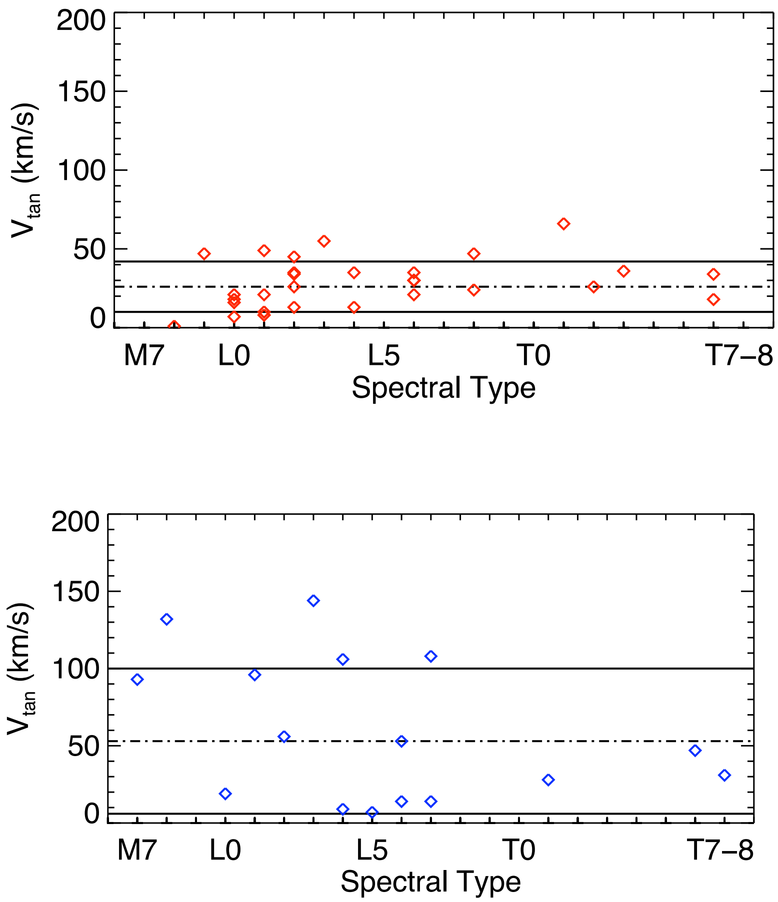

Fig. 10.— The spread of tangential velocities for objects marked as red outliers (top panel) and blue outliers (bottom panel). The red population has a fairly tight dispersion and the blue population has a fairly wide dispersion compared to the full sample suggesting a link between near-IR color and age. The dashed line in each plot represents the median V_{tan} value for the outlier group and the solid black lines represent the dispersion.

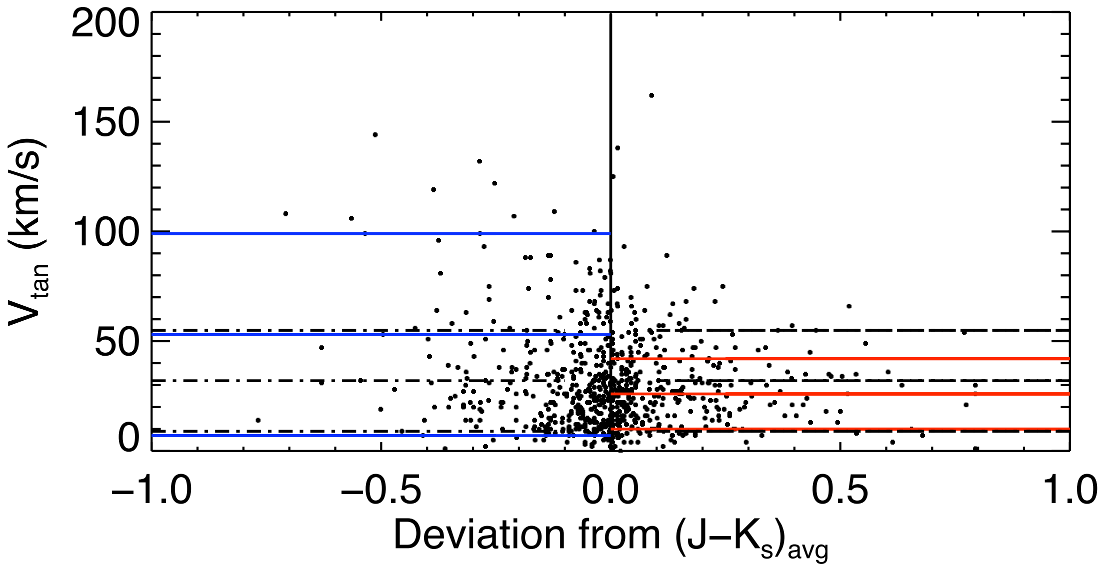

Fig. 11.— A scatter plot showing V_{tan} as a function of the deviation in $J-K_s$ color from the average at a given spectral type. The blue outliers appear to move faster on average than the red outliers. To demonstrate this we have over-plotted the average V_{tan} with dispersion for the blue and red photometric outliers as well as for the full astrometric sample (dashed lines).

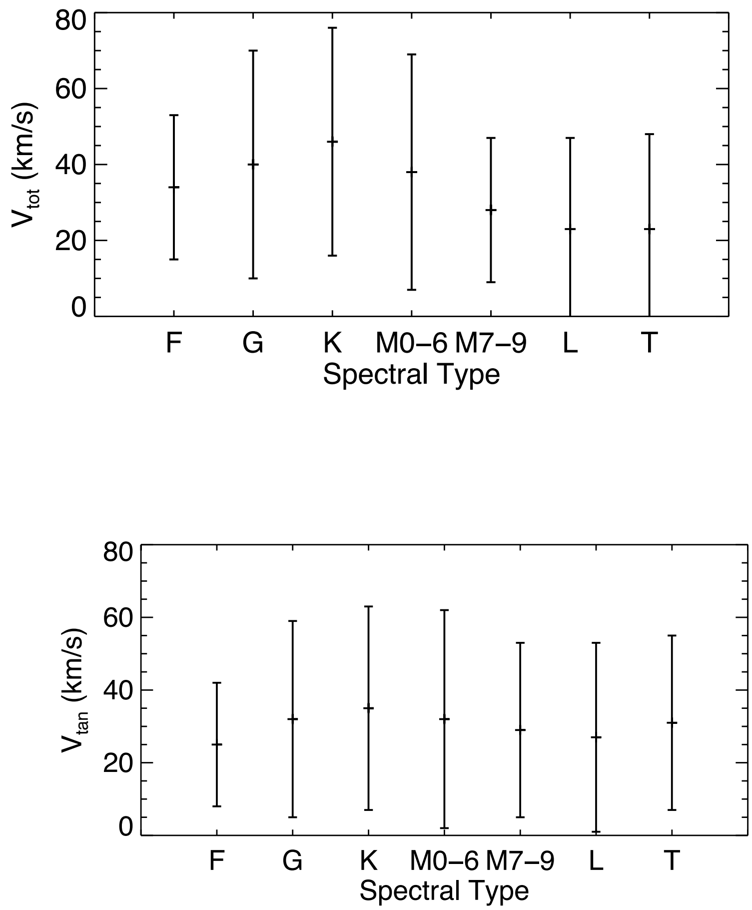

Fig. 12.— Top: A plot of median V_{tot} and σ_{tot} values calculated from the U,V,W velocities for the 20 pc sample of F through T objects. Bottom: A plot of median V_{tan} and σ_{tan} values calculated from the proper motions and distances for the 20 pc sample of F through T objects.

Table 1. Properties of Instruments Used for Astrometric Measurements

Telescope	Instrument	Band	FOV (arcminutes)	Plate Scale (arcsecond/pixel)	Dates	Seeing (arcseconds)	Sources Observed
CTIO 0.9m	CFIM	I	4.5	0.40	2007 Sep 23 - 26	0.8 - 2.0	42
MDM 1.3m	TIFKAM	J	5.6	0.55	2007 Nov 20 - 24	1.0 - 2.5	66
					2008 Apr 22 - 28	0.8 - 2.5	80
CTIO 1.5m	CPAPIR	J	35.0	1.02	2005 Oct 19	1.0 - 1.5	4
					2006 Aug 21	1.0 - 2.0	7
					2007 Mar 04	0.9 - 1.8	28
					2007 Mar 23	0.9 - 1.3	39
					2007 Dec 03 - 06	1.0 - 2.0	35
					2008 Jan 15 - 23	0.7 - 2.5	248

Table 2. New Proper Motion Measurements

Source Name (1)	RA (J2000) (2)	DEC (J2000) (3)	SpT[a] (optical) (4)	SpT (near-IR) (5)	$\mu_\alpha cos(\delta)$ ($''$/yr) (6)	μ_δ ($''$/yr) (7)	Baseline (yrs) (8)	Instrument (9)
2MASS J00034227-2822410	00 03 42.27	-28 22 41.0	M7.5	—	0.257 ± 0.016	-0.145 ± 0.018	9.2	CPAPIR
2MASSI J0006205-172051	00 06 20.50	-17 20 50.6	L2.5	—	-0.032 ± 0.017	0.017 ± 0.018	9.5	CPAPIR
2MASS J00100009-2031122	00 10 00.09	-20 31 12.2	L0	—	0.100 ± 0.022	0.007 ± 0.023	9.1	CFIM
2MASSI J0013578-223520	00 13 57.79	-22 35 20.0	L4	—	0.055 ± 0.017	-0.051 ± 0.019	9.4	CPAPIR
2MASS J00145575-4844171	00 14 55.75	-48 44 17.1	L2.5	—	0.851 ± 0.012	0.289 ± 0.018	8.1	CPAPIR
2MASS J00165953-4056541	00 16 59.53	-40 56 54.1	L3.5	—	0.201 ± 0.014	0.032 ± 0.018	8.3	CPAPIR
EROS-MP J0032-4405	00 32 55.84	-44 05 05.8	L0	—	0.126 ± 0.015	-0.099 ± 0.021	8.4	CPAPIR
2MASS J00332386-1521309	00 33 23.86	-15 21 30.9	L4	—	0.291 ± 0.016	0.043 ± 0.017	8.3	CPAPIR
2MASS J00374306-5846229	00 37 43.06	-58 46 22.9	L0	—	0.049 ± 0.010	-0.051 ± 0.020	8.2	CPAPIR
SIPS J0050-1538	00 50 24.44	-15 38 18.4	L1	—	-0.229 ± 0.018	-0.494 ± 0.019	9.6	CPAPIR
2MASSW J0051107-154417	00 51 10.78	-15 44 16.9	L3.5	—	0.043 ± 0.015	-0.021 ± 0.016	9.4	CPAPIR
2MASS J00531899-3631102	00 53 18.99	-36 31 10.2	L3.5	—	0.018 ± 0.015	-0.085 ± 0.019	8.5	CPAPIR
SDSSp J005406.55-003101.8	00 54 06.55	-00 31 01.8	L1	—	0.200 ± 0.009	-0.160 ± 0.009	9.2	TIFKAM
2MASSI J0104075-005328	01 04 07.50	-00 53 28.3	L4.5	—	0.473 ± 0.018	-0.021 ± 0.018	9.2	CPAPIR
2MASS J01062285-5933185	01 06 22.85	-59 33 18.5	L0	—	0.046 ± 0.010	-0.198 ± 0.020	8.2	CPAPIR
2MASS J01071607-1517577	01 07 16.07	-15 17 57.7	M7	—	-0.031 ± 0.016	0.011 ± 0.017	9.5	CPAPIR
SDSSp J010752.33+004156.1	01 07 52.42	+00 41 56.3	L8	L5.5	0.612 ± 0.020	0.078 ± 0.020	5.1	CPAPIR
SSSPM J0109-4955	01 09 09.18	-49 54 53.2	—	L1	0.095 ± 0.013	0.168 ± 0.020	8.2	CPAPIR
2MASS J01165457-1357342	01 16 54.57	-13 57 34.2	M9	—	-0.026 ± 0.022	-0.110 ± 0.022	7.5	CPAPIR
2MASSI J0117474-340325	01 17 47.48	-34 03 25.8	L2	—	0.080 ± 0.017	-0.062 ± 0.020	8.9	CFIM
2MASS J01244599-5745379	01 24 45.99	-57 45 37.9	L0	—	-0.003 ± 0.010	0.018 ± 0.019	8.3	CPAPIR
2MASSI J0125369-343505	01 25 36.89	-34 35 04.9	L2	—	0.151 ± 0.016	0.036 ± 0.019	9.1	CPAPIR
2MASS J01303563-4445411	01 30 35.63	-44 45 41.1	M9	—	0.120 ± 0.014	-0.025 ± 0.020	8.3	CPAPIR
2MASS J01311838+3801554	01 31 18.38	+38 01 55.4	L4	—	0.373 ± 0.012	-0.031 ± 0.015	9.1	TIFKAM
2MASSW J0135358+120522	01 35 35.86	+12 05 21.6	L1.5	—	-0.042 ± 0.023	-0.422 ± 0.023	7.3	CPAPIR
2MASSW J0141032+180450	01 41 03.21	+18 04 50.2	L1	L4.5	0.403 ± 0.011	-0.045 ± 0.012	9.1	TIFKAM
2MASS J01411479-2417311	01 41 14.79	-24 17 31.1	M7.5	—	-0.161 ± 0.017	-0.303 ± 0.019	9.2	CPAPIR
2MASS J01415823-4633574	01 41 58.23	-46 33 57.4	L0	L0	0.104 ± 0.017	-0.026 ± 0.024	8.1	CFIM
2MASS J01443536-0716142	01 44 35.36	-07 16 14.2	L5	—	0.395 ± 0.018	-0.204 ± 0.018	9.2	CPAPIR
2MASS J01460119-4545263	01 46 01.19	-45 45 26.3	M9	—	0.121 ± 0.016	0.060 ± 0.023	7.3	CPAPIR
2MASSW J0147334+345311	01 47 33.44	+34 53 11.2	L0.5	—	0.037 ± 0.009	-0.055 ± 0.011	10.0	TIFKAM
2MASS J01550354+0950003	01 55 03.54	+09 50 00.3	L5	—	0.338 ± 0.023	-0.080 ± 0.023	7.3	CPAPIR
2MASS J02042212-3632308	02 04 22.12	-36 32 30.8	M9	—	0.193 ± 0.017	-0.034 ± 0.021	8.5	CPAPIR
2MASSW J0205034+125142	02 05 03.44	+12 51 42.2	L5	—	0.349 ± 0.011	-0.018 ± 0.011	9.2	TIFKAM
SDSS J020608.97+223559.2	02 06 08.80	+22 35 59.3	—	L5.5	0.341 ± 0.015	-0.062 ± 0.016	10.2	CPAPIR
SDSS J020735.60+135556.3	02 07 35.57	+13 55 56.4	L3	L3	0.260 ± 0.017	-0.161 ± 0.018	9.3	CPAPIR
2MASSW J0208183+254253	02 08 18.33	+25 42 53.3	L1	—	0.356 ± 0.010	-0.021 ± 0.011	10.0	TIFKAM
2MASSW J0208236+273740	02 08 23.63	+27 37 40.0	L5	—	0.217 ± 0.013	-0.110 ± 0.014	10.1	TIFKAM
2MASSW J0208549+250048	02 08 54.99	+25 00 48.8	L5	—	-0.022 ± 0.011	0.060 ± 0.012	10.1	TIFKAM
SDSS J021128.25+141003.8	02 11 28.27	+14 10 03.9	L1	—	-0.092 ± 0.010	-0.030 ± 0.010	9.2	TIFKAM
2MASSI J0218291-313322	02 18 29.13	-31 33 23.0	L3	—	-0.165 ± 0.015	-0.138 ± 0.018	9.0	CPAPIR
2MASS J02192196+0506306	02 19 21.96	+05 06 30.6	—	L1	0.190 ± 0.024	0.005 ± 0.024	7.4	CPAPIR
2MASS J02212859-6831400	02 21 28.46	-68 31 40.0	M8	—	0.046 ± 0.006	-0.006 ± 0.017	7.3	CPAPIR
2MASS J02215494-5412054	02 21 54.99	-54 12 05.4	M9	—	0.136 ± 0.010	-0.010 ± 0.017	7.4	CPAPIR
2MASS J02235464-5815067	02 23 54.46	-58 15 06.7	L0	—	0.134 ± 0.010	0.005 ± 0.019	7.4	CPAPIR
2MASS J02251947-5837295	02 25 18.81	-58 37 29.5	M9	—	0.085 ± 0.010	-0.030 ± 0.018	7.4	CPAPIR
2MASS J02271036-1624479	02 27 10.36	-16 24 47.9	L1	—	0.426 ± 0.016	-0.297 ± 0.017	7.0	CFIM
2MASS J02284243+1639329	02 28 42.43	+16 39 32.9	L0	—	0.422 ± 0.020	-0.412 ± 0.021	8.2	CPAPIR

Table 2—Continued

Source Name (1)	RA (J2000) (2)	DEC (J2000) (3)	SpT[a] (optical) (4)	SpT (near-IR) (5)	$\mu_\alpha cos(\delta)$ (″/yr) (6)	μ_δ (″/yr) (7)	Baseline (yrs) (8)	Instrument (9)
2MASS J02284355-6325052	02 28 43.55	-63 25 05.2	—	L0	0.593 ± 0.010	0.458 ± 0.023	7.3	CPAPIR
2MASS J02301551+2704061	02 30 15.51	+27 04 06.1	L0	—	0.189 ± 0.008	-0.007 ± 0.010	9.1	TIFKAM
SDSS J023547.56-084919.8	02 35 47.56	-08 49 19.8	L2	—	-0.044 ± 0.013	0.013 ± 0.013	9.1	TIFKAM
SDSSp J023617.93+004855.0	02 36 17.94	+00 48 54.8	L6	L6.5	0.123 ± 0.012	-0.176 ± 0.012	7.2	TIFKAM
2MASSI J0239424-173547	02 39 42.45	-17 35 47.1	L0	—	0.042 ± 0.017	-0.095 ± 0.018	9.4	CPAPIR
2MASSI J0241536-124106	02 41 53.67	-12 41 06.9	L2	—	0.312 ± 0.016	-0.040 ± 0.017	9.4	CPAPIR
2MASSW J0242435+160739	02 42 43.55	+16 07 39.2	L1.5	—	0.152 ± 0.011	-0.210 ± 0.012	9.2	TIFKAM
2MASS J02435103-5432194	02 43 51.03	-54 32 19.4	M9	—	0.096 ± 0.011	-0.026 ± 0.019	8.2	CPAPIR
SDSS J024749.90-163112.6	02 47 49.78	-16 31 13.2	—	T2	0.313 ± 0.017	0.143 ± 0.017	9.3	CPAPIR
SDSS J025601.86+011047.2	02 56 01.89	+01 10 46.7	L0	—	0.025 ± 0.015	-0.068 ± 0.015	7.2	TIFKAM
2MASS J02572581-3105523	02 57 25.81	-31 05 52.3	L8	—	0.602 ± 0.018	0.320 ± 0.021	6.2	CPAPIR
2MASSI J0302012+135814	03 02 01.22	+13 58 14.2	L3	—	0.055 ± 0.015	-0.037 ± 0.016	10.3	CPAPIR
SDSSp J030321.24-000938.2	03 03 21.23	-00 09 37.8	L0	—	0.025 ± 0.017	-0.023 ± 0.017	9.2	CPAPIR
2MASSW J0306268+154514	03 06 26.84	+15 45 13.7	L6	—	0.212 ± 0.017	-0.071 ± 0.018	9.2	CPAPIR
2MASSW J0309088-194938	03 09 08.88	-19 49 38.7	L4.5	—	0.184 ± 0.016	-0.038 ± 0.017	9.2	CPAPIR
2MASS J03100053+0726506	03 10 00.53	+07 26 50.6	M7.5	—	0.539 ± 0.022	0.254 ± 0.022	7.3	CPAPIR
2MASS J03101401-2756452	03 10 14.01	-27 56 45.2	L5	—	-0.116 ± 0.016	-0.052 ± 0.018	9.2	CPAPIR
2MASSW J0310599+164816	03 10 59.86	+16 48 15.5	L8	L9	-0.706 ± 0.019	0.119 ± 0.020	8.3	CPAPIR
2MASS J03134443+0433165	03 13 44.43	+04 33 16.5	M7.5	—	-0.049 ± 0.022	0.006 ± 0.022	7.4	CPAPIR
2MASS J03140344+1603056	03 14 03.44	+16 03 05.6	L0	—	-0.241 ± 0.018	-0.076 ± 0.019	8.3	CPAPIR
2MASS J03144011-0450316	03 14 40.11	-04 50 31.6	M7.5	—	-0.068 ± 0.018	-0.119 ± 0.018	9.3	CPAPIR
2MASSI J0316451-284852	03 16 45.12	-28 48 52.1	L0	—	0.107 ± 0.017	-0.081 ± 0.019	9.2	CPAPIR
2MASS J03185403-3421292	03 18 54.03	-34 21 29.2	L7	—	0.365 ± 0.016	0.017 ± 0.019	9.1	CPAPIR
2MASS J03201720-1026124	03 20 17.20	-10 26 12.4	M8	—	0.013 ± 0.018	-0.100 ± 0.018	9.3	CPAPIR
2MASSW J0320284-044636	03 20 28.39	-04 46 35.8	—	L0.5	-0.267 ± 0.016	-0.533 ± 0.016	9.2	CPAPIR
2MASS J03231002-4631237	03 23 10.02	-46 31 23.7	L0	—	0.060 ± 0.013	-0.010 ± 0.019	7.5	CPAPIR
2MASS J03250136+2253039	03 25 01.36	+22 53 03.9	L3	—	0.405 ± 0.013	-0.146 ± 0.014	10.1	TIFKAM
SDSS J032553.17+042540.1	03 25 53.22	+04 25 40.6	—	T5.5	-0.183 ± 0.014	-0.099 ± 0.014	7.8	TIFKAM
2MASS J03264225-2102057	03 26 42.25	-21 02 05.7	L4	—	0.108 ± 0.014	-0.146 ± 0.015	9.0	CPAPIR
2MASS J03274091-3148156	03 27 40.91	-31 48 15.6	—	L3	0.038 ± 0.017	0.018 ± 0.020	9.1	CPAPIR
SDSSp J032817.38+003257.2	03 28 17.38	+00 32 57.2	L3	—	0.195 ± 0.013	0.033 ± 0.013	7.8	TIFKAM
SDSSp J033017.77+000047.8	03 30 17.74	+00 00 47.7	L0	—	-0.011 ± 0.018	-0.046 ± 0.018	9.3	CPAPIR
SDSSp J033035.13-002534.5	03 30 35.11	-00 25 34.6	L4	—	0.394 ± 0.015	-0.336 ± 0.015	9.2	CPAPIR
2MASS J03320043-2317496	03 32 00.43	-23 17 49.6	M8	—	-0.013 ± 0.020	-0.153 ± 0.022	7.3	CPAPIR
2MASS J03341218-4953322	03 34 12.04	-49 53 32.2	M9	—	2.308 ± 0.012	0.480 ± 0.019	7.4	CPAPIR
2MASS J03354535+0658058	03 35 45.35	+06 58 05.8	M8	—	0.029 ± 0.021	-0.333 ± 0.021	8.0	CPAPIR
2MASSW J0337036-175807	03 37 03.59	-17 58 07.9	L4.5	—	0.191 ± 0.031	0.115 ± 0.033	8.8	CFIM
2MASS J03400942-6724051	03 40 09.42	-67 24 05.1	L7	—	-0.318 ± 0.007	0.508 ± 0.018	8.9	CFIM
2MASS J03421621-6817321	03 42 16.21	-68 17 32.1	L2	—	0.064 ± 0.007	0.021 ± 0.018	9.2	CPAPIR
SDSS J035048.62-051812.8	03 50 48.61	-05 18 12.6	L1	—	0.012 ± 0.022	-0.028 ± 0.022	7.3	CPAPIR
SDSS J035104.37+481046.8	03 51 04.23	+48 10 47.7	—	T1	0.312 ± 0.019	-0.180 ± 0.029	7.9	TIFKAM
SDSS J035448.73-002742.1	03 54 48.55	-00 27 42.0	—	L2	-0.011 ± 0.022	-0.019 ± 0.022	7.3	CPAPIR
2MASS J03550477-1032415	03 55 04.77	-10 32 41.5	M8.5	—	0.046 ± 0.018	-0.044 ± 0.019	9.0	CPAPIR
2MASS J03552337+1133437	03 55 23.37	+11 33 43.7	L5	—	0.192 ± 0.017	-0.613 ± 0.017	7.2	CPAPIR
2MASSW J0355419+225702	03 55 41.91	+22 57 01.6	L3	—	0.146 ± 0.014	-0.025 ± 0.016	10.2	CPAPIR
SDSS J035721.11-064126.0	03 57 21.10	-06 41 26.0	L0	—	0.109 ± 0.012	0.008 ± 0.012	9.1	CPAPIR
DENIS-P J035726.9-441730	03 57 26.95	-44 17 30.5	L0	—	0.064 ± 0.013	-0.020 ± 0.019	8.4	CPAPIR
2MASS J03582255-4116060	03 58 22.55	-41 16 06.0	L5	—	0.051 ± 0.015	0.075 ± 0.020	8.1	CPAPIR

Table 2—Continued

Source Name (1)	RA (J2000) (2)	DEC (J2000) (3)	SpT[a] (optical) (4)	SpT (near-IR) (5)	$\mu_\alpha cos(\delta)$ ($''$/yr) (6)	μ_δ ($''$/yr) (7)	Baseline (yrs) (8)	Instrument (9)
2MASS J04012977-4050448	04 01 29.77	-40 50 44.8	L0	—	-0.036 ± 0.015	-0.102 ± 0.020	8.4	CPAPIR
2MASS J04070752+1546457	04 07 07.52	+15 46 45.7	L3.5	—	0.049 ± 0.019	-0.044 ± 0.020	8.1	CPAPIR
2MASS J04070885+1514565	04 07 08.85	+15 14 56.5	—	T5	0.106 ± 0.016	-0.110 ± 0.017	8.0	TIFKAM
2MASS J04081032+0742494	04 08 10.32	+07 42 49.4	M8	—	0.162 ± 0.020	0.095 ± 0.020	8.1	CPAPIR
2MASSI J0408290-145033	04 08 29.05	-14 50 33.4	L2	L4.5	0.188 ± 0.017	-0.131 ± 0.018	9.4	CPAPIR
2MASSI J0409095+210439	04 09 09.50	+21 04 39.3	L3	—	0.094 ± 0.015	-0.145 ± 0.016	10.2	CPAPIR
SDSSp J041320.38-011424.9	04 13 20.39	-01 14 24.8	L0.5	—	0.070 ± 0.017	0.001 ± 0.017	9.2	CPAPIR
2MASS J04174743-2129191	04 17 47.43	-21 29 19.1	M8	—	0.072 ± 0.017	0.022 ± 0.018	9.2	CPAPIR
2MASS J04210718-6306022	04 21 07.18	-63 06 02.2	L4	—	0.146 ± 0.008	0.191 ± 0.018	9.2	CPAPIR
2MASS J04270723+0859027	04 27 07.23	+08 59 02.7	M8	—	-0.121 ± 0.021	-0.005 ± 0.021	8.1	CPAPIR
2MASSI J0428510-225323	04 28 50.96	-22 53 22.7	L0.5	—	0.113 ± 0.012	0.155 ± 0.013	8.8	CFIM
2MASS J04305157-0849007	04 30 51.57	-08 49 00.7	M8	—	-0.021 ± 0.017	-0.171 ± 0.018	9.3	CPAPIR
2MASS J04351455-1414468	04 35 14.55	-14 14 46.8	M8	—	0.009 ± 0.014	0.016 ± 0.014	8.3	CPAPIR
2MASS J04362767+1151243	04 36 27.67	+11 51 24.3	M9	—	0.117 ± 0.020	-0.009 ± 0.020	8.1	CPAPIR
2MASS J04362788-4114465	04 36 27.88	-41 14 46.5	M8	—	0.073 ± 0.012	0.013 ± 0.016	8.2	CPAPIR
2MASS J04365019-1803262	04 36 50.19	-18 03 26.2	M7	—	0.204 ± 0.017	-0.015 ± 0.018	9.1	CPAPIR
2MASSI J0439010-235308	04 39 01.01	-23 53 08.3	L6.5	—	-0.110 ± 0.015	-0.152 ± 0.016	8.3	CPAPIR
2MASSI J0443058-320209	04 43 05.81	-32 02 09.0	L5	—	-0.013 ± 0.015	0.211 ± 0.018	9.1	CPAPIR
2MASS J04433761+0002051	04 43 37.61	+00 02 05.1	M9	—	0.028 ± 0.014	-0.099 ± 0.014	8.4	CPAPIR
2MASS J04441479+0543573	04 44 14.79	+05 43 57.3	M8	—	0.095 ± 0.021	-0.006 ± 0.021	8.0	CPAPIR
2MASS J04451119-0602526	04 45 11.19	-06 02 52.6	M7	—	0.047 ± 0.017	0.007 ± 0.018	9.2	CPAPIR
2MASS J04453237-3642258	04 45 32.37	-36 42 25.8	M9	—	0.454 ± 0.018	-0.008 ± 0.023	7.2	CPAPIR
2MASSI J0445538-304820	04 45 53.87	-30 48 20.4	L2	—	0.183 ± 0.013	-0.393 ± 0.015	8.2	CPAPIR
2MASS J04474307-1936045	04 47 43.07	-19 36 04.5	—	L5	0.069 ± 0.022	0.088 ± 0.023	7.3	CPAPIR
2MASSI J0451009-340214	04 51 00.93	-34 02 15.0	L0.5	—	0.107 ± 0.017	0.138 ± 0.021	8.8	CFIM
2MASSI J0453264-175154	04 53 26.47	-17 51 54.3	L3	—	0.037 ± 0.017	-0.021 ± 0.018	9.4	CPAPIR
2MASS J04553267-2701493	04 55 32.67	-27 01 49.3	M9	—	0.078 ± 0.016	-0.119 ± 0.017	9.1	CPAPIR
2MASS J05002100+0330501	05 00 21.00	+03 30 50.1	L4	—	-0.002 ± 0.021	-0.349 ± 0.021	8.0	CPAPIR
2MASS J05012406-0010452	05 01 24.06	-00 10 45.2	L4	—	0.158 ± 0.014	-0.139 ± 0.014	8.5	CPAPIR
2MASSI J0502134+144236	05 02 13.45	+14 42 36.7	L0	—	0.060 ± 0.012	-0.022 ± 0.012	9.1	TIFKAM
2MASS J05084947-1647167	05 08 49.47	-16 47 16.7	M8	—	-0.197 ± 0.018	-0.362 ± 0.018	9.1	CPAPIR
2MASS J05103520-4208140	05 10 35.20	-42 08 14.0	—	T5	0.104 ± 0.015	0.580 ± 0.021	8.3	CPAPIR
2MASSI J0512063-294954	05 12 06.36	-29 49 54.0	L4.5	—	-0.028 ± 0.016	0.099 ± 0.018	9.1	CPAPIR
2MASS J05161597-3332046	05 16 15.97	-33 32 04.6	—	L3	0.059 ± 0.016	0.184 ± 0.019	9.1	CPAPIR
2MASS J05170548-4154413	05 17 05.48	-41 54 41.3	M9	—	0.089 ± 0.015	0.016 ± 0.021	8.2	CPAPIR
2MASS J05184616-2756457	05 18 46.16	-27 56 45.7	L0	—	0.020 ± 0.013	0.022 ± 0.014	8.2	CPAPIR
2MASS J05185995-2828372	05 18 59.95	-28 28 37.2	L7.5	T1	-0.065 ± 0.016	-0.282 ± 0.019	9.0	CPAPIR
2MASSI J0523382-140302	05 23 38.22	-14 03 02.2	L2.5	L5	0.090 ± 0.017	0.166 ± 0.017	9.0	CPAPIR
2MASS J05265973-5026216	05 26 59.73	-50 26 21.6	L3	—	0.008 ± 0.012	0.227 ± 0.020	8.2	CPAPIR
2MASS J05284435-3252228	05 28 44.35	-32 52 22.8	M8.5	—	-0.029 ± 0.016	0.066 ± 0.018	9.0	CPAPIR
2MASS J05345844-1511439	05 34 58.44	-15 11 43.9	M9	—	-0.115 ± 0.018	0.085 ± 0.018	9.0	CPAPIR
2MASS J05361998-1920396	05 36 19.98	-19 20 39.6	L1	—	0.017 ± 0.017	-0.024 ± 0.018	9.0	CPAPIR
2MASS J06020638+4043588	06 02 06.38	+40 43 58.8	—	T4.5	0.243 ± 0.011	-0.212 ± 0.015	8.0	TIFKAM
2MASS J06050196-2342270	06 05 01.96	-23 42 27.0	L0	—	-0.057 ± 0.017	0.082 ± 0.018	9.0	CPAPIR
2MASS J06085283-2753583	06 08 52.83	-27 53 58.3	M9.5	—	-0.013 ± 0.011	-0.002 ± 0.013	8.1	CPAPIR
2MASS J06160532-4557080	06 16 05.32	-45 57 08.0	L2	—	-0.057 ± 0.014	0.114 ± 0.020	8.2	CPAPIR
2MASS J06193544-5249367	06 19 35.44	-52 49 36.7	M9	—	0.057 ± 0.012	0.172 ± 0.020	8.2	CPAPIR
2MASS J06244595-4521548	06 24 45.95	-45 21 54.8	L5	—	-0.045 ± 0.011	0.370 ± 0.015	7.3	CPAPIR

Table 2—Continued

Source Name (1)	RA (J2000) (2)	DEC (J2000) (3)	SpT[a] (optical) (4)	SpT (near-IR) (5)	$\mu_\alpha cos(\delta)$ (″/yr) (6)	μ_δ (″/yr) (7)	Baseline (yrs) (8)	Instrument (9)
SDSS J062621.22+002934.2	06 26 21.21	+00 29 34.1	L1	—	0.084 ± 0.015	-0.092 ± 0.015	8.0	TIFKAM
2MASS J06322402-5010349	06 32 24.02	-50 10 34.9	L3	—	-0.103 ± 0.013	-0.018 ± 0.021	8.2	CPAPIR
2MASS J06395596-7418446	06 39 55.96	-74 18 44.6	L5	—	0.000 ± 0.005	-0.002 ± 0.019	9.1	CPAPIR
2MASS J06411840-4322329	06 41 18.40	-43 22 32.9	L1.5	—	0.189 ± 0.013	0.613 ± 0.018	8.8	CPAPIR
2MASS J06524851-5741376	06 52 48.47	-57 41 37.6	M8	—	-0.007 ± 0.008	0.025 ± 0.015	7.3	CPAPIR
SDSS J065405.63+652805.4	06 54 05.64	+65 28 05.1	—	L6	-0.015 ± 0.006	0.030 ± 0.015	8.8	TIFKAM
2MASSW J0708213+295035	07 08 21.33	+29 50 35.0	L5	—	0.040 ± 0.014	-0.236 ± 0.016	10.0	CPAPIR
2MASSW J0717163+570543	07 17 16.26	+57 05 43.0	—	L6.5	-0.016 ± 0.009	0.046 ± 0.016	8.9	TIFKAM
2MASS J07193188-5051410	07 19 31.88	-50 51 41.0	L0	—	0.190 ± 0.013	-0.060 ± 0.020	7.9	CPAPIR
2MASS J07231462+5727081	07 23 14.62	+57 27 08.1	L1	—	0.062 ± 0.011	-0.238 ± 0.020	9.3	TIFKAM
2MASS J07290002-3954043	07 29 00.02	-39 54 04.3	—	T8	-0.578 ± 0.014	1.636 ± 0.018	8.9	CPAPIR
SDSS J073922.26+661503.5	07 39 22.03	+66 15 03.9	—	T1	0.180 ± 0.010	-0.077 ± 0.026	9.2	TIFKAM
SDSS J074007.30+200921.9	07 40 07.12	+20 09 21.6	—	L6	-0.185 ± 0.015	-0.111 ± 0.016	10.1	CPAPIR
2MASSW J0740096+321203	07 40 09.66	+32 12 03.2	L4.5	—	-0.029 ± 0.010	-0.084 ± 0.012	9.7	TIFKAM
SDSS J074149.15+235127.5	07 41 49.20	+23 51 27.5	—	T5	-0.243 ± 0.013	-0.143 ± 0.014	10.0	TIFKAM
SDSS J074201.41+205520.5	07 42 01.30	+20 55 19.8	—	T5	-0.316 ± 0.018	-0.255 ± 0.020	10.0	TIFKAM
2MASSI J0746425+200032	07 46 42.56	+20 00 32.1	L0.5	L1	-0.362 ± 0.012	-0.042 ± 0.013	9.2	CPAPIR
SDSS J074756.31+394732.9	07 47 56.31	+39 47 32.9	L0	—	0.052 ± 0.012	-0.057 ± 0.015	9.6	TIFKAM
SDSS J075259.43+413634.6	07 52 59.42	+41 36 34.4	L0	—	-0.014 ± 0.020	0.041 ± 0.027	10.1	TIFKAM
2MASSI J0753321+291711	07 53 32.17	+29 17 11.9	L2	—	-0.090 ± 0.012	-0.102 ± 0.013	9.8	TIFKAM
SDSS J075515.26+293445.4	07 55 15.28	+29 34 45.3	—	L3.5	-0.092 ± 0.019	-0.074 ± 0.022	10.3	TIFKAM
2MASSI J0755480+221218	07 55 47.95	+22 12 16.9	T6	T5	-0.034 ± 0.016	-0.248 ± 0.017	9.2	CPAPIR
2MASSI J0756252+124456	07 56 25.29	+12 44 56.0	L6	—	0.004 ± 0.015	-0.056 ± 0.016	10.2	CPAPIR
SDSS J075656.54+231458.5	07 56 56.31	+23 14 57.7	—	L3.5	0.158 ± 0.016	-0.156 ± 0.017	9.2	CPAPIR
SDSS J075840.33+324723.4	07 58 40.37	+32 47 24.5	—	T2	-0.191 ± 0.014	-0.349 ± 0.017	9.6	TIFKAM
2MASS J07592947+0323564	07 59 29.47	+03 23 56.4	M7	—	-0.052 ± 0.020	-0.003 ± 0.020	8.1	CPAPIR
2MASSW J0801405+462850	08 01 40.56	+46 28 49.8	L6.5	—	-0.200 ± 0.009	-0.335 ± 0.013	9.6	TIFKAM
2MASS J08041429+0330474	08 04 14.29	+03 30 47.4	M8.5	—	-0.006 ± 0.020	-0.013 ± 0.020	8.0	CPAPIR
SDSS J080531.84+481233.0	08 05 31.89	+48 12 33.0	L4	L9	-0.455 ± 0.012	0.054 ± 0.018	8.9	TIFKAM
SDSS J080959.01+443422.2	08 09 59.03	+44 34 21.6	—	L6	-0.198 ± 0.014	-0.214 ± 0.019	8.3	TIFKAM
2MASS J08151407+1030117	08 15 14.07	+10 30 11.7	M7	—	-0.059 ± 0.020	0.048 ± 0.020	7.9	CPAPIR
2MASS J08194602+1658539	08 19 46.02	+16 58 53.9	M9	—	-0.160 ± 0.016	-0.035 ± 0.017	9.4	TIFKAM
2MASSW J0820299+450031	08 20 29.96	+45 00 31.5	L5	—	-0.111 ± 0.009	-0.323 ± 0.012	9.6	TIFKAM
SDSS J082030.12+103737.0	08 20 30.13	+10 37 37.2	—	L9.5	-0.077 ± 0.017	-0.026 ± 0.017	7.8	TIFKAM
2MASS J08234818+2428577	08 23 48.18	+24 28 57.7	L3	—	-0.170 ± 0.014	0.062 ± 0.015	8.0	TIFKAM
2MASSW J0829066+145622	08 29 06.64	+14 56 22.5	L2	—	-0.048 ± 0.010	-0.244 ± 0.010	10.0	TIFKAM
2MASS J08294908-0012241	08 29 49.08	-00 12 24.1	M7	—	-0.197 ± 0.017	0.175 ± 0.017	9.1	CPAPIR
2MASSW J0829570+265510	08 29 57.07	+26 55 09.9	L6.5	—	-0.099 ± 0.015	-0.043 ± 0.017	10.0	CPAPIR
SDSS J083048.80+012831.1	08 30 48.78	+01 28 31.1	—	T4.5	0.236 ± 0.020	-0.312 ± 0.020	8.0	CPAPIR
2MASS J08315598+1025417	08 31 55.98	+10 25 41.7	M9	—	-0.049 ± 0.021	-0.184 ± 0.021	7.9	CPAPIR
2MASSW J0832045-012835	08 32 04.51	-01 28 36.0	L1.5	—	0.070 ± 0.015	0.003 ± 0.015	9.0	TIFKAM
SDSS J083506.16+195304.4	08 35 06.22	+19 53 05.0	—	L4.5	-0.158 ± 0.013	-0.108 ± 0.014	9.1	TIFKAM
2MASS J08352366+1029318	08 35 23.66	+10 29 31.8	M7	—	-0.050 ± 0.022	-0.179 ± 0.022	7.2	CPAPIR
2MASS J08355829+0548308	08 35 58.29	+05 48 30.8	L3	—	-0.099 ± 0.021	-0.020 ± 0.021	7.9	CPAPIR
2MASS J08391608+1253543	08 39 16.08	+12 53 54.3	M9	—	-0.044 ± 0.015	-0.127 ± 0.016	10.2	CPAPIR
2MASSI J0847287-153237	08 47 28.72	-15 32 37.2	L2	—	0.145 ± 0.012	-0.183 ± 0.013	8.1	CPAPIR
2MASS J08500174-1924184	08 50 01.74	-19 24 18.4	M8	—	-0.116 ± 0.017	0.045 ± 0.018	8.9	CPAPIR
SDSS J085116.20+181730.0	08 51 16.27	+18 17 30.2	—	L4.5	-0.195 ± 0.018	-0.050 ± 0.019	9.2	CPAPIR

Table 2—Continued

Source Name (1)	RA (J2000) (2)	DEC (J2000) (3)	SpT[a] (optical) (4)	SpT (near-IR) (5)	$\mu_\alpha cos(\delta)$ ($''$/yr) (6)	μ_δ ($''$/yr) (7)	Baseline (yrs) (8)	Instrument (9)
SDSS J085234.90+472035.0	08 52 34.90	+47 20 35.9	—	L9.5	-0.069 ± 0.018	-0.418 ± 0.026	9.4	TIFKAM
2MASSI J0856479+223518	08 56 47.93	+22 35 18.2	L3	—	-0.208 ± 0.017	-0.006 ± 0.018	9.2	CPAPIR
2MASS J08572787-0332396	08 57 27.87	-03 32 39.6	M9.5	—	-0.150 ± 0.018	-0.056 ± 0.018	9.2	CPAPIR
SDSSp J085758.45+570851.4	08 57 58.49	+57 08 51.4	L8	L8	-0.413 ± 0.006	-0.349 ± 0.012	8.0	TIFKAM
SDSS J085834.42+325627.7	08 58 34.67	+32 56 27.5	—	T1	-0.760 ± 0.023	0.075 ± 0.023	9.7	TIFKAM
2MASSI J0859254-194926	08 59 25.47	-19 49 26.8	L6	—	-0.300 ± 0.013	-0.081 ± 0.014	8.1	CPAPIR
2MASS J08593854+6341355	08 59 38.54	+63 41 35.5	L0	—	-0.096 ± 0.019	-0.495 ± 0.042	8.3	TIFKAM
2MASS J08594029+1145325	08 59 40.29	+11 45 32.5	M8	—	-0.275 ± 0.021	-0.060 ± 0.021	7.9	CPAPIR
2MASS J09054654+5623117	09 05 46.54	+56 23 11.7	L5	—	-0.014 ± 0.017	0.089 ± 0.031	8.3	TIFKAM
SDSS J090900.73+652527.2	09 09 00.85	+65 25 27.5	—	T1	-0.217 ± 0.003	-0.138 ± 0.008	7.9	TIFKAM
DENIS-P J0909-0658	09 09 57.49	-06 58 18.6	L0	—	-0.210 ± 0.018	0.015 ± 0.019	9.0	CPAPIR
2MASSW J0913032+184150	09 13 03.20	+18 41 50.1	L3	—	0.032 ± 0.016	-0.187 ± 0.017	10.0	CPAPIR
2MASS J09153413+0422045	09 15 34.13	+04 22 04.5	L7	—	-0.109 ± 0.025	0.031 ± 0.025	6.9	CPAPIR
2MASS J09161504+2139512	09 16 15.04	+21 39 51.2	M9	—	-0.199 ± 0.017	-0.054 ± 0.018	10.3	TIFKAM
2MASSW J0918382+213406	09 18 38.15	+21 34 05.8	L2.5	—	0.330 ± 0.015	-0.156 ± 0.017	10.0	CPAPIR
2MASSW J0920122+351742	09 20 12.23	+35 17 42.9	L6.5	T0	-0.167 ± 0.009	-0.200 ± 0.010	9.7	TIFKAM
2MASS J09211410-2104446	09 21 14.10	-21 04 44.6	L2	—	0.244 ± 0.016	-0.908 ± 0.017	7.0	CPAPIR
2MASS J09221952-8010399	09 22 19.52	-80 10 39.9	L4	—	0.041 ± 0.004	-0.045 ± 0.022	8.1	CPAPIR
SDSS J092757.46+602746.3	09 27 57.41	+60 27 46.4	L1	—	0.003 ± 0.013	0.016 ± 0.025	9.3	TIFKAM
2MASS J09282562+4230545	09 28 25.62	+42 30 54.5	M8.5	—	-0.390 ± 0.019	-0.378 ± 0.025	9.2	TIFKAM
2MASSW J0928397-160312	09 28 39.72	-16 03 12.8	L2	—	-0.158 ± 0.017	0.034 ± 0.017	9.8	CPAPIR
SDSS J093109.56+032732.5	09 31 09.55	+03 27 33.1	—	L7.5	-0.612 ± 0.018	-0.131 ± 0.018	7.1	CPAPIR
2MASS J09312823+0528223	09 31 28.23	+05 28 22.3	M7	—	-0.142 ± 0.021	-0.204 ± 0.021	8.0	CPAPIR
2MASS J09342920-1352434	09 34 29.20	-13 52 43.4	M7	—	-0.238 ± 0.016	-0.127 ± 0.017	9.8	CPAPIR
2MASS J09352803-2934596	09 35 28.03	-29 34 59.6	L0	—	-0.023 ± 0.016	0.064 ± 0.018	8.9	CPAPIR
2MASS J09384022-2748184	09 38 40.22	-27 48 18.4	M8	—	-0.408 ± 0.017	-0.164 ± 0.020	7.9	CPAPIR
2MASS J09393548-2448279	09 39 35.48	-24 48 27.9	—	T8	0.592 ± 0.019	-1.064 ± 0.021	7.9	CPAPIR
2MASS J09424604+5531025	09 42 46.04	+55 31 02.5	M8	—	-0.066 ± 0.018	0.085 ± 0.032	9.3	TIFKAM
2MASS J09474477+0224327	09 47 44.77	+02 24 32.7	M8	—	-0.081 ± 0.020	-0.162 ± 0.020	8.0	CPAPIR
2MASS J09532126-1014205	09 53 21.26	-10 14 20.5	L0	—	-0.048 ± 0.019	-0.089 ± 0.019	9.0	CPAPIR
2MASSW J1004392-333518	10 04 39.29	-33 35 18.9	L4	—	0.366 ± 0.016	-0.340 ± 0.019	8.7	CPAPIR
SDSS J100711.74+193056.2	10 07 11.85	+19 30 56.3	—	L8	-0.263 ± 0.015	-0.018 ± 0.016	10.0	CPAPIR
2MASS J10073369-4555147	10 07 33.69	-45 55 14.7	—	T5	-0.758 ± 0.013	0.138 ± 0.019	7.9	CPAPIR
2MASS J10184314-1624273	10 18 43.14	-16 24 27.3	M7.5	—	0.053 ± 0.015	-0.017 ± 0.016	9.8	CPAPIR
2MASSW J1018588-290953	10 18 58.79	-29 09 53.5	L1	—	-0.319 ± 0.017	-0.086 ± 0.019	8.9	CPAPIR
2MASS J10213232-2044069	10 21 32.32	-20 44 06.9	M9	—	-0.312 ± 0.016	-0.051 ± 0.017	8.8	CPAPIR
2MASS J10220489+0200477	10 22 04.89	+02 00 47.7	M9	—	-0.178 ± 0.018	-0.394 ± 0.018	7.1	CPAPIR
SDSS J102552.43+321234.0	10 25 52.27	+32 12 34.9	—	L7.5	0.393 ± 0.011	-0.228 ± 0.013	8.5	TIFKAM
2MASS J10284042-1438439	10 28 40.42	-14 38 43.9	M7	—	0.024 ± 0.016	-0.162 ± 0.016	9.8	CPAPIR
2MASS J10321706+0501032	10 32 17.06	+05 01 03.2	M8.5	—	-0.032 ± 0.021	-0.012 ± 0.021	8.0	CPAPIR
SDSS J103321.92+400549.5	10 33 21.86	+40 05 49.9	—	L6	0.154 ± 0.013	-0.188 ± 0.018	9.1	TIFKAM
2MASSW J1036530-344138	10 36 53.05	-34 41 38.0	L6	—	-0.020 ± 0.015	-0.462 ± 0.019	8.8	CPAPIR
SDSS J103931.35+325625.5	10 39 31.37	+32 56 26.3	—	T1	0.031 ± 0.046	-0.023 ± 0.054	9.7	TIFKAM
2MASS J10430758+2225236	10 43 07.58	+22 25 23.6	L8	—	-0.117 ± 0.015	0.013 ± 0.016	9.1	CPAPIR
SDSSp J104325.10+000148.2	10 43 25.08	+00 01 48.2	L3	—	-0.161 ± 0.019	-0.156 ± 0.019	9.1	CPAPIR
SDSS J104335.08+121314.1	10 43 35.08	+12 13 14.9	—	L7	0.046 ± 0.017	-0.248 ± 0.018	9.2	CPAPIR
2MASS J10451718-2607249	10 45 17.18	-26 07 24.9	M8	—	-0.162 ± 0.017	-0.146 ± 0.019	8.9	CPAPIR
SDSS J104829.21+091937.8	10 48 29.26	+09 19 37.3	—	T2.5	-0.268 ± 0.020	0.241 ± 0.020	7.9	CPAPIR

Table 2—Continued

Source Name (1)	RA (J2000) (2)	DEC (J2000) (3)	SpT[a] (optical) (4)	SpT (near-IR) (5)	$\mu_\alpha cos(\delta)$ ($''$/yr) (6)	μ_δ ($''$/yr) (7)	Baseline (yrs) (8)	Instrument (9)
SDSS J105213.51+442255.7	10 52 13.50	+44 22 55.9	—	T0.5	0.018 ± 0.017	-0.152 ± 0.024	9.6	TIFKAM
2MASS J10544168+1214084	10 54 41.68	+12 14 08.4	M7.5	—	0.103 ± 0.018	-0.080 ± 0.019	8.8	CPAPIR
DENIS-P J1058.7-1548	10 58 47.87	-15 48 17.2	L3	L3	-0.237 ± 0.015	0.014 ± 0.015	8.9	CPAPIR
2MASS J11000965+4957470	11 00 09.65	+49 57 47.0	L3.5	—	-0.133 ± 0.018	-0.151 ± 0.028	9.3	TIFKAM
2MASS J11020983-3430355	11 02 09.90	-34 30 35.5	M8.5	—	-0.033 ± 0.012	-0.024 ± 0.015	7.9	CPAPIR
2MASSW J1102337-235945	11 02 33.75	-23 59 46.4	L4.5	—	-0.238 ± 0.019	0.075 ± 0.020	8.0	CPAPIR
2MASSI J1104012+195921	11 04 01.27	+19 59 21.7	L4	—	0.080 ± 0.022	0.154 ± 0.023	7.7	CPAPIR
2MASS J11061197+2754225	11 06 11.97	+27 54 22.5	—	T2.5	-0.229 ± 0.019	-0.448 ± 0.021	7.8	CPAPIR
2MASS J11103321+5424028	11 10 33.21	+54 24 02.8	M7	—	-0.066 ± 0.009	-0.299 ± 0.016	8.4	TIFKAM
2MASS J11124910-2044315	11 12 49.10	-20 44 31.5	—	L0.5	0.001 ± 0.014	0.023 ± 0.015	8.9	CPAPIR
SDSS J111320.16+343057.9	11 13 20.09	+34 30 58.2	—	L3	0.108 ± 0.040	-0.025 ± 0.049	10.0	TIFKAM
2MASS J11145133-2618235	11 14 51.33	-26 18 23.5	—	T7.5	-3.011 ± 0.015	-0.391 ± 0.016	8.0	CPAPIR
2MASSI J1117369+360936	11 17 36.91	+36 09 35.9	L0	—	0.001 ± 0.019	-0.016 ± 0.023	9.2	TIFKAM
SDSS J112118.57+433246.5	11 21 18.58	+43 32 46.4	—	L7.5	-0.057 ± 0.024	0.026 ± 0.033	8.0	TIFKAM
2MASSW J1122362-391605	11 22 36.24	-39 16 05.4	L3	—	0.073 ± 0.012	-0.180 ± 0.015	8.0	CPAPIR
2MASS J11233605+1241222	11 23 36.05	+12 41 22.2	M7	—	-0.036 ± 0.017	0.009 ± 0.017	10.0	CPAPIR
2MASS J11240487+3808054	11 24 04.87	+38 08 05.4	M8.5	—	0.130 ± 0.021	-0.019 ± 0.027	10.0	TIFKAM
SDSS J112615.25+012048.2	11 26 15.28	+01 20 48.1	—	L6	-0.131 ± 0.022	0.042 ± 0.022	7.9	CPAPIR
2MASS J11304761-2210335	11 30 47.61	-22 10 33.5	M8	—	-0.126 ± 0.017	-0.232 ± 0.018	9.7	CPAPIR
2MASS J11345493+0022541	11 34 54.93	+00 22 54.1	M9	—	0.401 ± 0.021	-0.343 ± 0.021	7.9	CPAPIR
SDSS J113833.10+674040.3	11 38 33.08	+67 40 40.3	L0	—	0.024 ± 0.014	-0.127 ± 0.037	9.1	TIFKAM
2MASS J11391107+0841121	11 39 11.07	+08 41 12.1	M7.5	—	0.089 ± 0.021	-0.025 ± 0.022	7.9	CPAPIR
2MASS J11395113-3159214	11 39 51.16	-31 59 21.4	M9	—	-0.071 ± 0.014	-0.017 ± 0.016	7.1	CPAPIR
2MASS J11485427-2544404	11 48 54.27	-25 44 40.4	M8	—	0.147 ± 0.018	0.047 ± 0.020	7.9	CPAPIR
2MASS J11524266+2438079	11 52 42.66	+24 38 07.9	M9	—	-0.451 ± 0.032	0.036 ± 0.035	10.2	TIFKAM
2MASS J11543399+0135545	11 54 33.99	+01 35 54.5	M9	—	0.121 ± 0.022	-0.043 ± 0.022	7.9	CPAPIR
2MASS J11544223-3400390	11 54 42.23	-34 00 39.0	L0	—	-0.161 ± 0.013	0.004 ± 0.015	8.0	CPAPIR
2MASSW J1155395-372735	11 55 39.52	-37 27 35.0	L2	—	0.050 ± 0.012	-0.767 ± 0.015	7.9	CPAPIR
SDSS J115553.86+055957.5	11 55 53.89	+05 59 57.7	—	L7.5	-0.406 ± 0.022	-0.026 ± 0.022	7.9	CPAPIR
2MASS J11580269-2545369	11 58 02.69	-25 45 36.9	M8	—	-0.102 ± 0.019	-0.167 ± 0.021	7.8	CPAPIR
2MASS J11582484+1354456	11 58 24.84	+13 54 45.6	M9	—	-0.116 ± 0.017	0.168 ± 0.018	10.0	CPAPIR
2MASS J12022564-0629026	12 02 25.64	-06 29 02.6	M9	—	0.096 ± 0.019	-0.075 ± 0.019	9.0	CPAPIR
2MASS J12023666-0604054	12 02 36.66	-06 04 05.4	M8	—	0.088 ± 0.018	-0.034 ± 0.018	9.0	CPAPIR
SDSS J120602.51+281328.7	12 06 02.48	+28 13 29.3	—	T3	0.047 ± 0.014	-0.105 ± 0.016	9.7	TIFKAM
2MASS J12070374-3151298	12 07 03.74	-31 51 29.8	L3	—	-0.232 ± 0.016	-0.074 ± 0.019	8.8	CPAPIR
2MASS J12073804-3909050	12 07 38.04	-39 09 05.0	L4	—	-0.142 ± 0.011	0.031 ± 0.015	7.9	CPAPIR
2MASS J12095613-1004008	12 09 56.13	-10 04 00.8	—	T3	0.250 ± 0.019	-0.390 ± 0.019	9.0	CPAPIR
2MASS J12123389+0206280	12 12 33.89	+02 06 28.0	—	L1	0.065 ± 0.021	-0.141 ± 0.021	7.9	CPAPIR
2MASSI J1213033-043243	12 13 03.36	-04 32 43.7	L5	—	-0.388 ± 0.020	-0.013 ± 0.020	9.0	CPAPIR
SDSS J121440.95+631643.4	12 14 40.89	+63 16 43.4	—	T3.5	0.165 ± 0.030	-0.021 ± 0.068	7.9	TIFKAM
2MASS J12154432-3420591	12 15 44.32	-34 20 59.1	—	T4.5	-0.212 ± 0.017	-0.310 ± 0.021	7.8	CPAPIR
2MASS J12155348+0050498	12 15 53.48	+00 50 49.8	M8	—	0.220 ± 0.020	-0.398 ± 0.020	7.9	CPAPIR
2MASS J12162161+4456340	12 16 21.61	+44 56 34.0	L5	—	-0.035 ± 0.014	-0.004 ± 0.019	8.1	TIFKAM
SDSS J121659.17+300306.3	12 16 59.18	+30 03 05.4	—	L3.5	-0.021 ± 0.017	0.115 ± 0.019	10.1	TIFKAM
2MASS J12172935+0035326	12 17 29.35	+00 35 32.6	M7.5	—	0.078 ± 0.026	-0.001 ± 0.026	6.9	CPAPIR
2MASS J12185957-0550282	12 18 59.57	-05 50 28.2	M8.5	—	-0.279 ± 0.019	-0.036 ± 0.019	9.0	CPAPIR
SDSS J121951.45+312849.4	12 19 51.56	+31 28 49.7	—	L8	-0.250 ± 0.026	-0.017 ± 0.031	10.1	TIFKAM
2MASS J12215066-0843197	12 21 50.66	-08 43 19.7	M8	—	-0.192 ± 0.019	0.015 ± 0.019	9.0	CPAPIR

Table 2—Continued

Source Name (1)	RA (J2000) (2)	DEC (J2000) (3)	SpT[a] (optical) (4)	SpT (near-IR) (5)	$\mu_\alpha cos(\delta)$ ($''$/yr) (6)	μ_δ ($''$/yr) (7)	Baseline (yrs) (8)	Instrument (9)
2MASS J12271545-0636458	12 27 15.45	-06 36 45.8	M9	—	-0.106 ± 0.019	-0.085 ± 0.019	9.0	CPAPIR
SDSS J122855.38+005044.1	12 28 55.38	+00 50 44.0	L0	—	-0.041 ± 0.021	-0.038 ± 0.021	7.9	CPAPIR
2MASS J12312141+4959234	12 31 21.41	+49 59 23.4	L2	—	-0.053 ± 0.019	-0.022 ± 0.030	9.2	TIFKAM
2MASS J12314753+0847331	12 31 47.53	+08 47 33.1	—	T5.5	-1.176 ± 0.021	-1.043 ± 0.021	7.8	CPAPIR
2MASS J12473570-1219518	12 47 35.70	-12 19 51.8	M8.5	—	0.036 ± 0.018	-0.223 ± 0.018	9.8	CPAPIR
SDSS J125011.65+392553.9	12 50 11.66	+39 25 58.2	—	T4	-0.015 ± 0.008	-0.828 ± 0.011	9.6	TIFKAM
2MASS J12522042-3149288	12 52 20.42	-31 49 28.8	M8	—	0.166 ± 0.016	-0.032 ± 0.019	8.8	CPAPIR
2MASSW J1300425+191235	13 00 42.55	+19 12 35.4	L1	L3	-0.820 ± 0.018	-1.244 ± 0.019	8.8	CPAPIR
2MASS J13015465-1510223	13 01 54.65	-15 10 22.3	L1	—	-0.086 ± 0.016	-0.075 ± 0.017	7.9	CPAPIR
2MASS J13023897+0351410	13 02 38.97	+03 51 41.0	M7.5	—	-0.039 ± 0.021	0.025 ± 0.021	7.9	CPAPIR
2MASS J13061727+3820296	13 06 17.27	+38 20 29.6	L1	—	-0.175 ± 0.027	-0.008 ± 0.035	8.3	TIFKAM
2MASS J13082507+0725512	13 08 25.07	+07 25 51.2	M9	—	0.259 ± 0.021	-0.416 ± 0.021	7.8	CPAPIR
SDSSp J131415.52-000848.1	13 14 15.51	-00 08 48.0	—	L3.5	-0.001 ± 0.023	0.073 ± 0.023	7.0	CPAPIR
2MASSI J1315309-264951	13 15 30.94	-26 49 51.3	L5.5	—	-0.682 ± 0.013	-0.282 ± 0.014	8.8	CPAPIR
2MASS J13204159+0957506	13 20 41.59	+09 57 50.6	M7.5	—	-0.236 ± 0.021	-0.129 ± 0.021	7.9	CPAPIR
DENIS-P J1323-1806	13 23 35.97	-18 06 37.9	L0	—	-0.097 ± 0.016	-0.024 ± 0.017	8.0	CPAPIR
2MASS J13235206+3014340	13 23 52.06	+30 14 34.0	M8.5	—	-0.695 ± 0.023	0.156 ± 0.027	8.1	TIFKAM
2MASSW J1326201-272937	13 26 20.09	-27 29 37.0	L5	—	-0.368 ± 0.014	-0.028 ± 0.016	8.0	CPAPIR
2MASS J13290099-4147133	13 29 00.99	-41 47 13.3	M9	—	0.231 ± 0.013	-0.280 ± 0.017	8.7	CPAPIR
2MASS J13373116+4938367	13 37 31.16	+49 38 36.7	L0	—	0.039 ± 0.016	0.049 ± 0.025	8.9	TIFKAM
2MASS J13411160-3052505	13 41 11.60	-30 52 50.5	L3	—	0.030 ± 0.013	-0.134 ± 0.015	7.9	CPAPIR
SDSS J134203.11+134022.2	13 42 03.11	+13 40 22.2	—	L5.5	0.000 ± 0.019	-0.027 ± 0.019	9.1	CPAPIR
2MASS J13435275-3851385	13 43 52.75	-38 51 38.5	M8	—	-0.044 ± 0.014	-0.016 ± 0.018	8.8	CPAPIR
DENIS-P J1347590-761005	13 47 59.11	-76 10 05.4	—	L0	0.203 ± 0.005	0.038 ± 0.020	7.9	CPAPIR
2MASS J13480100-0304328	13 48 01.00	-03 04 32.8	M7	—	0.191 ± 0.020	-0.408 ± 0.020	8.6	CPAPIR
2MASS J13571237+1428398	13 57 12.37	+14 28 39.8	—	L4	0.069 ± 0.052	-0.006 ± 0.053	8.3	TIFKAM
SDSS J135852.68+374711.9	13 58 52.69	+37 47 13.7	—	T4.5	-0.010 ± 0.013	-0.411 ± 0.016	10.0	TIFKAM
SDSS J135923.99+472843.2	13 59 24.03	+47 28 43.1	—	L8.5	-0.144 ± 0.010	0.034 ± 0.014	9.0	TIFKAM
2MASS J13595510-4034582	13 59 55.10	-40 34 58.2	L1	—	0.038 ± 0.011	-0.485 ± 0.015	7.9	CPAPIR
SDSS J140023.12+433822.3	14 00 23.20	+43 38 22.2	—	L7	-0.235 ± 0.020	0.012 ± 0.028	9.0	TIFKAM
2MASS J14022235+0648479	14 02 22.35	+06 48 47.9	M9	—	0.056 ± 0.021	-0.006 ± 0.021	7.8	CPAPIR
SDSS J140231.75+014830.3	14 02 31.75	+01 48 30.1	L1	—	-0.230 ± 0.018	0.015 ± 0.018	7.0	CPAPIR
SDSS J140255.66+080055.2	14 02 55.64	+08 00 55.3	—	T1	0.065 ± 0.021	-0.098 ± 0.022	7.8	CPAPIR
SDSS J140441.68+023550.1	14 04 41.67	+02 35 50.1	L1	—	0.072 ± 0.019	-0.226 ± 0.019	7.0	CPAPIR
2MASS J14090310-3357565	14 09 03.10	-33 57 56.5	L2	—	0.089 ± 0.012	0.047 ± 0.014	8.0	CPAPIR
2MASS J14122268+2354108	14 12 22.68	+23 54 10.8	M9	—	-0.175 ± 0.036	0.068 ± 0.039	8.1	TIFKAM
SDSS J141530.05+572428.7	14 15 30.03	+57 24 30.0	—	T3	0.043 ± 0.013	-0.345 ± 0.025	9.2	TIFKAM
SDSS J141659.78+500626.4	14 16 59.87	+50 06 25.8	—	L5.5	-0.297 ± 0.013	0.188 ± 0.021	8.1	TIFKAM
2MASS J14193867-3136519	14 19 38.67	-31 36 51.9	M7	—	-0.041 ± 0.018	0.028 ± 0.021	7.8	CPAPIR
SDSS J142227.25+221557.1	14 22 27.20	+22 15 57.5	—	L6.5	0.047 ± 0.019	-0.054 ± 0.020	7.9	CPAPIR
DENIS-P J142527.97-365023.4	14 25 27.98	-36 50 22.9	—	L5	-0.268 ± 0.015	-0.473 ± 0.019	8.5	CPAPIR
2MASS J14360977+2900350	14 36 09.77	+29 00 35.0	M8.5	—	-0.098 ± 0.018	0.068 ± 0.021	9.1	TIFKAM
2MASS J14384542+5559134	14 38 45.42	+55 59 13.4	M7	—	-0.062 ± 0.015	-0.059 ± 0.027	9.1	TIFKAM
2MASSW J1438549-130910	14 38 54.98	-13 09 10.3	L3	—	0.154 ± 0.016	-0.022 ± 0.017	9.0	CPAPIR
SDSS J143933.44+031759.2	14 39 33.43	+03 17 59.1	L1	—	-0.013 ± 0.021	0.030 ± 0.021	7.0	CPAPIR
SDSS J144016.20+002638.9	14 40 16.22	+00 26 39.0	L3	L1	-0.006 ± 0.021	0.004 ± 0.021	7.8	CPAPIR
2MASS J14410457+2719323	14 41 04.57	+27 19 32.3	M7	—	0.089 ± 0.030	-0.053 ± 0.034	9.1	TIFKAM
SDSS J144128.52+504600.4	14 41 28.46	+50 46 00.5	—	L3	0.077 ± 0.013	-0.109 ± 0.021	9.9	TIFKAM

Table 2—Continued

Source Name (1)	RA (J2000) (2)	DEC (J2000) (3)	SpT[a] (optical) (4)	SpT (near-IR) (5)	$\mu_\alpha cos(\delta)$ ($''$/yr) (6)	μ_δ ($''$/yr) (7)	Baseline (yrs) (8)	Instrument (9)
DENIS-P J1441-0945, G 124-62B	14 41 37.16	-09 45 59.0	L0.5	—	-0.182 ± 0.016	-0.038 ± 0.016	8.0	CPAPIR
2MASSW J1448256+103159	14 48 25.63	+10 31 59.0	—	L3.5	0.262 ± 0.022	-0.120 ± 0.022	7.7	CPAPIR
2MASS J14532303+1543081	14 53 23.03	+15 43 08.1	M7.5	—	-0.011 ± 0.018	0.028 ± 0.018	8.9	TIFKAM
Gliese 570D	14 57 14.96	-21 21 47.7	T7	T7.5	1.028 ± 0.013	-1.688 ± 0.014	8.9	CPAPIR
2MASS J14582453+2839580	14 58 24.53	+28 39 58.0	M8	—	-0.109 ± 0.024	-0.432 ± 0.028	8.9	TIFKAM
2MASS J15004572+4219448	15 00 45.72	+42 19 44.8	M9	—	0.136 ± 0.011	-0.065 ± 0.015	8.2	TIFKAM
SDSS J150240.80+613815.5	15 02 40.82	+61 38 15.8	L1	—	-0.098 ± 0.010	0.036 ± 0.022	9.0	TIFKAM
2MASSW J1507476-162738	15 07 47.69	-16 27 38.6	L5	L5.5	-0.128 ± 0.014	-0.906 ± 0.015	8.9	CPAPIR
SDSS J151114.66+060742.9	15 11 14.66	+06 07 43.1	—	T0	-0.252 ± 0.021	-0.256 ± 0.021	7.0	CPAPIR
2MASS J15124058+3403501	15 12 40.58	+34 03 50.1	—	L1	0.228 ± 0.010	-0.010 ± 0.012	10.1	TIFKAM
SDSS J151506.11+443648.3	15 15 06.07	+44 36 48.3	—	L7.5	0.075 ± 0.019	-0.020 ± 0.027	8.9	TIFKAM
SDSS J151603.03+025928.9	15 16 03.03	+02 59 29.2	—	T0	-0.048 ± 0.022	-0.174 ± 0.022	7.7	CPAPIR
SDSS J151643.01+305344.4	15 16 43.06	+30 53 44.3	—	T0.5	-0.132 ± 0.021	0.004 ± 0.024	10.1	TIFKAM
SDSS J152039.82+354619.8	15 20 39.74	+35 46 21.0	—	T0	0.279 ± 0.023	-0.386 ± 0.028	8.2	TIFKAM
SDSS J152103.24+013142.7	15 21 03.27	+01 31 42.6	—	T2	-0.232 ± 0.018	0.085 ± 0.018	6.9	CPAPIR
SDSS J152531.32+581053.1	15 25 31.32	+58 10 52.5	—	L6.5	0.064 ± 0.015	0.044 ± 0.028	9.0	TIFKAM
2MASSI J1526140+204341	15 26 14.05	+20 43 41.4	L7	—	-0.207 ± 0.018	-0.362 ± 0.019	10.9	TIFKAM
ULAS J153108.89+060111.1	15 31 08.88	+06 01 11.2	L0	—	0.028 ± 0.025	-0.048 ± 0.025	8.0	TIFKAM
2MASS J15311344+1641282	15 31 13.44	+16 41 28.2	—	L1	-0.076 ± 0.025	0.040 ± 0.026	9.2	TIFKAM
SDSS J153417.05+161546.1AB	15 34 17.11	+16 15 46.3	—	T3.5	-0.066 ± 0.020	-0.052 ± 0.021	9.1	TIFKAM
SDSS J153453.33+121949.2	15 34 53.25	+12 19 49.5	—	L4	0.177 ± 0.020	-0.040 ± 0.021	9.1	TIFKAM
2MASS J15382417-1953116	15 38 24.17	-19 53 11.6	L6	—	0.032 ± 0.019	-0.061 ± 0.020	9.9	TIFKAM
2MASS J15392137+6502364	15 39 21.37	+65 02 36.4	—	L1	-0.038 ± 0.011	0.038 ± 0.025	9.0	TIFKAM
SDSS J154009.36+374230.3	15 40 09.42	+37 42 31.6	—	L9	-0.205 ± 0.016	-0.382 ± 0.020	8.1	TIFKAM
SDSS J154508.93+355527.3	15 45 09.01	+35 55 27.1	—	L7.5	-0.183 ± 0.016	0.063 ± 0.020	10.1	TIFKAM
SDSS J154727.23+033636.3	15 47 27.23	+03 36 36.1	L2	—	-0.062 ± 0.019	0.056 ± 0.019	6.9	CPAPIR
2MASS J15474719-2423493	15 47 47.19	-24 23 49.3	L0	—	-0.126 ± 0.014	-0.143 ± 0.015	7.9	CPAPIR
SDSS J154849.02+172235.4	15 48 49.12	+17 22 35.9	—	L5	-0.277 ± 0.019	-0.109 ± 0.019	9.2	TIFKAM
2MASS J15485834-1636018	15 48 58.34	-16 36 01.8	—	L2	-0.210 ± 0.016	-0.107 ± 0.017	9.8	CPAPIR
2MASS J15515237+0941148	15 51 52.37	+09 41 14.8	L2	—	-0.070 ± 0.022	-0.050 ± 0.022	8.0	TIFKAM
2MASSW J1553214+210907	15 53 21.42	+21 09 07.1	L5.5	—	-0.045 ± 0.015	0.114 ± 0.016	10.9	TIFKAM
2MASSW J1555157-095605	15 55 15.73	-09 56 05.5	L1	—	0.950 ± 0.015	-0.767 ± 0.015	8.0	CPAPIR
2MASS J16062665+6837268	16 06 26.65	+68 37 26.8	—	L2	-0.083 ± 0.008	0.043 ± 0.023	8.9	TIFKAM
SDSS J161626.46+221859.2	16 16 26.49	+22 18 59.1	—	L5	-0.073 ± 0.018	0.021 ± 0.019	9.9	TIFKAM
SDSS J161731.65+401859.7	16 17 31.68	+40 19 00.3	—	L4	-0.038 ± 0.014	-0.132 ± 0.019	10.0	TIFKAM
2MASS J16184503-1321297	16 18 45.03	-13 21 29.7	L0	—	-0.094 ± 0.015	-0.081 ± 0.015	7.9	CPAPIR
SDSS J162051.17+323732.1	16 20 51.16	+32 37 32.2	—	L6	0.015 ± 0.011	-0.033 ± 0.014	10.1	TIFKAM
SDSS J162255.27+115924.1	16 22 55.33	+11 59 23.8	—	L6	-0.128 ± 0.025	-0.012 ± 0.026	9.1	TIFKAM
SDSS J162838.77+230821.1	16 28 38.55	+23 08 24.1	—	T7	0.497 ± 0.020	-0.461 ± 0.021	10.9	TIFKAM
SDSS J163022.92+081822.0	16 30 22.95	+08 18 22.1	—	T5.5	-0.083 ± 0.018	-0.084 ± 0.019	6.8	CPAPIR
SDSS J163030.53+434404.0	16 30 30.54	+43 44 03.2	—	L7	-0.138 ± 0.020	0.052 ± 0.028	8.1	TIFKAM
2MASS J16304139+0938446	16 30 41.39	+09 38 44.6	L0	—	-0.058 ± 0.018	-0.069 ± 0.018	6.8	CPAPIR
SDSS J163359.23-064056.5	16 33 59.33	-06 40 55.2	—	L6	-0.232 ± 0.015	-0.195 ± 0.015	7.9	CPAPIR
2MASS J16452207+3004071	16 45 22.07	+30 04 07.1	L3	—	-0.065 ± 0.019	-0.065 ± 0.022	9.0	TIFKAM
2MASSW J1645221-131951	16 45 22.11	-13 19 51.6	L1.5	—	-0.352 ± 0.015	-0.801 ± 0.016	7.9	CPAPIR
2MASS J16490419+0444571	16 49 04.19	+04 44 57.1	M8	—	0.054 ± 0.023	0.083 ± 0.023	7.9	TIFKAM
SDSS J165329.69+623136.5	16 53 29.70	+62 31 36.4	L3	—	0.031 ± 0.016	-0.024 ± 0.035	8.0	TIFKAM
2MASSI J1656188+283506	16 56 18.85	+28 35 05.6	L4.5	—	0.011 ± 0.027	-0.027 ± 0.031	8.2	TIFKAM

Table 2—Continued

Source Name (1)	RA (J2000) (2)	DEC (J2000) (3)	SpT[a] (optical) (4)	SpT (near-IR) (5)	$\mu_\alpha cos(\delta)$ (″/yr) (6)	μ_δ (″/yr) (7)	Baseline (yrs) (8)	Instrument (9)
DENIS-P J170548.38-051645.7	17 05 48.34	-05 16 46.2	—	L4	0.141 ± 0.015	-0.101 ± 0.015	8.0	CPAPIR
SDSS J171147.17+233130.5	17 11 47.16	+23 31 31.0	—	L3.5	0.010 ± 0.017	-0.085 ± 0.018	10.9	TIFKAM
SDSS J171714.10+652622.2	17 17 14.08	+65 26 22.1	L4	—	0.159 ± 0.007	-0.092 ± 0.016	8.9	TIFKAM
SDSS J172244.32+632946.8	17 22 44.32	+63 29 47.0	L0	—	0.013 ± 0.012	-0.038 ± 0.027	8.9	TIFKAM
SDSS J173101.41+531047.9	17 31 01.40	+53 10 47.6	—	L6	0.064 ± 0.011	0.162 ± 0.018	9.8	TIFKAM
2MASSW J1743415+212707	17 43 41.48	+21 27 06.9	L2.5	—	0.159 ± 0.018	0.233 ± 0.019	8.9	TIFKAM
2MASS J17461199+5034036	17 46 11.99	+50 34 03.6	L5	—	0.258 ± 0.018	0.025 ± 0.028	8.1	TIFKAM
2MASS J19285196-4356256	19 28 51.96	-43 56 25.6	L5	—	0.066 ± 0.012	-0.273 ± 0.016	6.9	CFIM
2MASS J19360187-5502322	19 36 01.87	-55 02 32.2	L5	—	0.169 ± 0.009	-0.298 ± 0.016	7.0	CPAPIR
2MASS J20025073-0521524	20 02 50.73	-05 21 52.4	L6	—	-0.102 ± 0.014	-0.110 ± 0.014	8.5	CPAPIR
2MASS J20343769+0827009	20 34 37.69	+08 27 00.9	L3	—	-0.096 ± 0.016	-0.489 ± 0.016	7.3	CFIM
2MASS J20360316+1051295	20 36 03.16	+10 51 29.5	L3	—	-0.132 ± 0.017	-0.184 ± 0.018	7.5	TIFKAM
2MASS J20414283-3506442	20 41 42.83	-35 06 44.2	L2	—	0.063 ± 0.010	-0.120 ± 0.012	9.3	CPAPIR
2MASSI J2107316-030733	21 07 31.69	-03 07 33.7	L0	—	0.143 ± 0.020	-0.009 ± 0.020	7.0	CFIM
2MASS J21075409-4544064	21 07 54.09	-45 44 06.4	L0	—	0.107 ± 0.014	-0.027 ± 0.020	8.1	CFIM
2MASSW J2130446-084520	21 30 44.64	-08 45 20.5	L1.5	—	0.346 ± 0.019	-0.044 ± 0.019	8.3	CFIM
SDSS J213240.36+102949.4	21 32 40.36	+10 29 49.4	—	L4.5	0.120 ± 0.018	-0.007 ± 0.019	7.5	TIFKAM
SDSS J213352.72+101841.0	21 33 52.74	+10 18 41.0	—	L5	-0.008 ± 0.012	-0.094 ± 0.012	7.4	TIFKAM
2MASS J21392676+0220226	21 39 26.76	+02 20 22.6	—	T1	0.507 ± 0.022	0.123 ± 0.022	6.1	CPAPIR
2MASS J21420580-3101162	21 42 05.80	-31 01 16.2	L3	—	0.060 ± 0.012	-0.095 ± 0.014	9.3	CPAPIR
2MASS J21481633+4003594	21 48 16.33	+40 03 59.4	L6.5	—	0.770 ± 0.018	0.456 ± 0.024	7.9	TIFKAM
2MASS J21501592-7520367	21 50 15.92	-75 20 36.7	L1	—	0.879 ± 0.005	-0.300 ± 0.019	7.2	CFIM
2MASS J21512543-2441000	21 51 25.43	-24 41 00.0	L3	—	0.278 ± 0.014	-0.021 ± 0.015	9.4	CPAPIR
2MASS J21542494-1023022	21 54 24.94	-10 23 02.2	—	T4.5	0.193 ± 0.012	0.037 ± 0.012	9.1	TIFKAM
2MASS J21543318+5942187	21 54 33.18	+59 42 18.7	—	T6	-0.182 ± 0.009	-0.445 ± 0.017	8.1	TIFKAM
2MASS J21574904-5534420	21 57 49.04	-55 34 42.0	L2	—	0.043 ± 0.011	-0.012 ± 0.019	7.2	CPAPIR
2MASS J21580457-1550098	21 58 04.57	-15 50 09.8	L4	—	0.057 ± 0.030	-0.035 ± 0.032	7.0	CFIM
2MASSW J2206450-421721	22 06 44.98	-42 17 20.8	L2	—	0.111 ± 0.013	-0.182 ± 0.018	9.0	CPAPIR
2MASS J22120703+3430351	22 12 07.03	+34 30 35.1	L5	—	0.160 ± 0.023	-0.232 ± 0.028	7.9	TIFKAM
2MASS J22134491-2136079	22 13 44.91	-21 36 07.9	L0	—	0.033 ± 0.017	-0.061 ± 0.019	8.1	CPAPIR
2MASSW J2224438-015852	22 24 43.81	-01 58 52.1	L4.5	L3.5	0.467 ± 0.015	-0.869 ± 0.015	9.1	TIFKAM
2MASSI J2238074+435317	22 38 07.42	+43 53 17.9	L1.5	—	0.324 ± 0.012	-0.132 ± 0.016	9.1	TIFKAM
SDSSp J224953.45+004404.2	22 49 53.45	+00 44 04.6	L3	L5	0.075 ± 0.018	0.026 ± 0.018	7.3	CPAPIR
2MASSI J2254519-284025	22 54 51.94	-28 40 25.3	L0.5	L0.5	0.000 ± 0.023	0.024 ± 0.026	7.2	CFIM
2MASS J22551861-5713056	22 55 18.61	-57 13 05.6	—	L5.5	-0.216 ± 0.011	-0.260 ± 0.020	8.2	CPAPIR
2MASS J23224684-3133231	23 22 46.88	-31 33 23.1	L0	—	-0.210 ± 0.017	-0.519 ± 0.020	7.0	CPAPIR
SDSS J232804.58-103845.7	23 28 04.59	-10 38 45.2	—	L3.5	-0.010 ± 0.015	-0.037 ± 0.015	9.2	CPAPIR
2MASS J23302258-0347189	23 30 22.58	-03 47 18.9	L1	—	0.223 ± 0.022	0.014 ± 0.022	8.9	CFIM
2MASS J23312378-4718274	23 31 23.78	-47 18 27.4	—	T5	0.104 ± 0.013	-0.049 ± 0.019	7.1	CPAPIR
2MASS J23440624-0733282	23 44 06.24	-07 33 28.2	L4.5	—	-0.013 ± 0.027	-0.064 ± 0.027	8.9	CFIM
2MASS J23453903+0055137	23 45 39.03	+00 55 13.7	L0	—	0.078 ± 0.039	-0.045 ± 0.039	7.1	CFIM

Note. — Details on the new proper motion measurements reported in this article. See Table 3 for discovery references.

[a]SpT refers to the spectral type of the object.

Table 3. Full Astrometric Database

Source Name (1)	Ref. (2)	RA (J2000) (3)	DEC (J2000) (4)	2MASS J (mag) (5)	2MASS K_s (mag) (6)	$\mu_\alpha cos(\delta)$ ($''$/yr) (7)	μ_δ ($''$/yr) (8)	μ Ref. (9)	SpT (opt) (10)	SpT (IR) (11)	Distance (pc) (13)	V_{tan} (km s^{-1}) (14)	No (15
SDSS J000013.54+255418.6	54	00 00 13.54	+25 54 18.0	14.99 ± 0.10[c]	14.73 ± 0.06[c]	0.006 ± 0.019	0.130 ± 0.022	10	—	T4.5	11 ± 1	7 ± 1	—
SDSS J000112.18+153535.5	54	00 01 12.17	+15 35 35.5	15.42 ± 0.06[c]	13.56 ± 0.10[c]	0.150 ± 0.023	-0.169 ± 0.015	10	—	L4	29 ± 6	31 ± 7	—
2MASS J00034227-2822410	20	00 03 42.27	-28 22 41.0	13.07 ± 0.02	11.97 ± 0.03	0.257 ± 0.016	-0.145 ± 0.018	19	M7.5	—	26 ± 3	37 ± 4	VLMC-Possib
GJ 1001B, LHS 102B	37	00 04 34.84	-40 44 05.8	13.11 ± 0.02	11.40 ± 0.03	0.644 ± 0.003	-1.494 ± 0.002	23	L5	L4.5	13.0 ± 0.7[j]	100.4 ± 5.2	CB
2MASS J00044144-2058298	45	00 04 41.44	-20 58 29.8	12.40 ± 0.02	11.40 ± 0.02	0.826 ± 0.076	-0.009 ± 0.075	27	M8	—	18 ± 3	70 ± 14	—
2MASS J00054844-2157196	86	00 05 48.44	-21 57 19.6	13.27 ± 0.03	12.20 ± 0.03	0.703 ± 0.024	-0.119 ± 0.004	28	M9	—	23 ± 3	78 ± 11	—
2MASSI J0006205-172051	43	00 06 20.50	-17 20 50.6	15.66 ± 0.07	14.01 ± 0.05	-0.032 ± 0.017	0.017 ± 0.018	19	L2.5	—	43 ± 4	7 ± 4	—
2MASS J00070787-2458042	86	00 07 07.87	-24 58 04.2	13.12 ± 0.02	12.06 ± 0.02	0.189 ± 0.022	-0.051 ± 0.006	28	M7	—	30 ± 4	28 ± 5	—
2MASS J00100009-2031122	20	00 10 00.09	-20 31 12.2	14.13 ± 0.02	12.88 ± 0.03	0.117 ± 0.020	0.031 ± 0.017	10	L0	—	30 ± 2	17 ± 3	—
2MASSI J0013578-223520	43	00 13 57.79	-22 35 20.0	15.78 ± 0.07	14.04 ± 0.05	0.055 ± 0.017	-0.051 ± 0.019	19	L4	—	35 ± 4	12 ± 3	—
2MASS J00145575-4844171	49	00 14 55.75	-48 44 17.1	14.05 ± 0.04	12.72 ± 0.03	0.851 ± 0.012	0.289 ± 0.018	19	L2.5	—	21 ± 2	88 ± 7	—
2MASSW J0015447+351603	47	00 15 44.76	+35 16 02.6	13.88 ± 0.03	12.26 ± 0.02	0.083 ± 0.018	-0.246 ± 0.014	10	L2	—	21 ± 2	25 ± 2	—
2MASS J00165953-4056541	49	00 16 59.53	-40 56 54.1	15.32 ± 0.06	13.43 ± 0.04	0.201 ± 0.014	0.032 ± 0.018	19	L3.5	—	31 ± 3	30 ± 4	—
SDSS J001911.65+003017.8	40	00 19 11.65	+00 30 17.6	14.92 ± 0.04	13.57 ± 0.03	-0.029 ± 0.018	-0.025 ± 0.011	10	L1	—	38 ± 3	7 ± 3	—
2MASS J00192626+4614078	19	00 19 26.26	+46 14 07.8	12.60 ± 0.02	11.50 ± 0.01	0.14 ± 0.06	-0.10 ± 0.05	36	M8	—	20 ± 2	16 ± 6	—
2MASS J00194579+5213179	19	00 19 45.79	+52 13 17.9	12.79 ± 0.02	11.62 ± 0.02	0.27 ± 0.20	-0.10 ± 0.23	36	M9	—	19 ± 1	26 ± 17	—
2MASS J00242463-0158201	42	00 24 24.63	-01 58 20.1	11.99 ± 0.04	10.54 ± 0.02	-0.080 ± 0.004	0.133 ± 0.006	41	M9.5	—	11.8 ± 0.6[o]	8.7 ± 0.6	—
2MASS J00250365+4759191AB	20	00 25 03.65	+47 59 19.1	14.84 ± 0.04	12.90 ± 0.06	0.312 ± 0.039	-0.009 ± 0.044	14	L4	—	31 ± 6[ee]	46 ± 11	CB
2MASS J00274197+0503417	89	00 27 41.97	+05 03 41.7	16.19 ± 0.09	14.96 ± 0.12	0.0105 ± 0.0004	-0.0008 ± 0.0003	15	M9.5	—	72.5 ± 8.5[h]	3.6 ± 0.4	LG
2MASS J00275592+2219328	57	00 27 55.92	+22 19 32.8	10.61 ± 0.02	9.57 ± 0.02	0.40 ± 0.04	-0.17 ± 0.04	36	M8	—	10 ± 1[x]	21 ± 3	CB
2MASSW J0030300-145033	47	00 30 30.13	-14 50 33.3	16.53 ± 0.06[c]	14.51 ± 0.06[c]	0.245 ± 0.004	-0.028 ± 0.002	44	L7	—	26.7 ± 3.3[q]	31.2 ± 3.8	—
2MASSW J0030438+313932	46	00 30 43.84	+31 39 32.1	15.48 ± 0.05	14.03 ± 0.05	-0.049 ± 0.016	-0.057 ± 0.014	10	L2	—	43 ± 3	15 ± 3	—
2MASS J00315477+0649463	56	00 31 54.77	+06 49 46.3	12.82 ± 0.02	11.72 ± 0.02	0.27 ± 0.10	0.07 ± 0.06	36	M7	—	26 ± 3	35 ± 13	—
2MASS J00320509+0219017	83	00 32 05.09	+02 19 01.7	14.32 ± 0.03	12.80 ± 0.03	0.417 ± 0.017	-0.312 ± 0.013	10	L1.5	M9	27 ± 2	67 ± 5	—
2MASSI J0032431-223727	43	00 32 43.08	-22 37 27.2	15.39 ± 0.05	13.96 ± 0.05	0.115 ± 0.027	0.023 ± 0.015	10	L1	—	48 ± 3	27 ± 6	—
EROS-MP J0032-4405	37	00 32 55.84	-44 05 05.8	14.78 ± 0.04	13.27 ± 0.04	0.126 ± 0.015	-0.099 ± 0.021	19	L0	—	41 ± 5	31 ± 5	LG
SDSSp J003259.36+141036.6	32	00 32 59.37	+14 10 37.1	16.83 ± 0.17	14.95 ± 0.11	0.273 ± 0.007	0.039 ± 0.004	44	—	L8	33.2 ± 5.9[q]	43.4 ± 7.7	—
2MASS J00332386-1521309	35	00 33 23.86	-15 21 30.9	15.29 ± 0.06	13.41 ± 0.04	0.291 ± 0.016	0.043 ± 0.017	19	L4	—	28 ± 6	38 ± 8	LG
2MASS J00345157+0523050	13	00 34 51.57	+05 23 05.0	15.54 ± 0.05	< 16.24	0.65 ± 0.06	0.21 ± 0.05	5	—	T6.5	14 ± 2	44 ± 7	—
2MASSI J0034568-070601	43	00 34 56.84	-07 06 01.3	15.53 ± 0.06	13.94 ± 0.07	0.2 ± 0.1	0.1 ± 0.1	24	L3	—	37 ± 3	40 ± 18	—
2MASSW J0036159+182110	82	00 36 16.17	+18 21 10.4	12.41 ± 0.06[c]	11.09 ± 0.06[c]	0.8991 ± 0.0006	0.120 ± 0.002	15	L3.5	L4	8.8 ± 0.1[h]	37.7 ± 0.3	—
2MASS J00374306-5846229	74	00 37 43.06	-58 46 22.9	15.37 ± 0.05	13.59 ± 0.05	0.049 ± 0.010	-0.051 ± 0.020	19	L0	—	54 ± 7	18 ± 5	LG
SDSS J003843.99+134339.5	40	00 38 43.98	+13 43 39.5	15.91 ± 0.07	14.76 ± 0.10	0.064 ± 0.016	-0.041 ± 0.008	10	L1	—	61 ± 4	22 ± 4	—
HD 3651B	71	00 39 18.91	+21 15 16.8	16.16 ± 0.03	16.87 ± 0.05	-0.4611 ± 0.0007	-0.3709 ± 0.0007	34	—	T7.5	11.1 ± 0.1[l]	31.2 ± 0.3	VLMC
2MASS J00413538-5621127	57	00 41 35.38	-56 21 12.7	11.96 ± 0.02	10.86 ± 0.02	0.08 ± 0.12	-0.09 ± 0.13	36	M8	—	15 ± 1	8 ± 9	—
SDSS J004154.54+134135.5	40	00 41 54.53	+13 41 35.1	14.45 ± 0.03	13.24 ± 0.03	-0.174 ± 0.024	-0.138 ± 0.036	10	L0	—	35 ± 2	37 ± 5	—
2MASSW J0045214+163445	105	00 45 21.43	+16 34 44.6	13.06 ± 0.02	11.37 ± 0.02	0.385 ± 0.017	-0.026 ± 0.012	10	L2	L3.5	14 ± 1	26 ± 2	LG
2MASS J00464841+0715177	83	00 46 48.41	+07 15 17.7	13.89 ± 0.03	12.55 ± 0.03	0.098 ± 0.022	-0.051 ± 0.010	10	L0	M9	27 ± 3	14 ± 3	—
2MASS J00492677-0635467	19	00 49 26.77	-06 35 46.7	13.34 ± 0.02	12.10 ± 0.02	-0.111 ± 0.008	-0.460 ± 0.030	9	M8.5	—	25 ± 2	57 ± 5	—
2MASS J00501994-3322402	99	00 50 19.94	-33 22 40.2	15.93 ± 0.07	15.24 ± 0.19	1.20 ± 0.11	0.90 ± 0.12	41	—	T7	8 ± 1	54 ± 8	—
SIPS J0050-1538	25	00 50 24.44	-15 38 18.4	13.78 ± 0.02	12.65 ± 0.03	-0.229 ± 0.018	-0.494 ± 0.019	19	L1	—	23 ± 3	59 ± 8	—
2MASSW J0051107-154417	47	00 51 10.78	-15 44 16.9	15.28 ± 0.05	13.47 ± 0.04	0.043 ± 0.015	-0.021 ± 0.016	19	L3.5	—	30 ± 3	7 ± 2	—
2MASS J00525468-2705597	85	00 52 54.68	-27 05 59.7	13.61 ± 0.03	12.54 ± 0.03	0.056 ± 0.005	0.090 ± 0.005	42	M8	—	22.2 ± 5.2[n]	11.2 ± 2.7	—
2MASS J00531899-3631102	49	00 53 18.99	-36 31 10.2	14.45 ± 0.03	12.94 ± 0.03	0.018 ± 0.015	-0.085 ± 0.019	19	L3.5	—	21 ± 2	9 ± 2	—
SDSSp J005406.55-003101.8	90	00 54 06.55	-00 31 01.8	15.73 ± 0.05	14.38 ± 0.07	0.200 ± 0.009	-0.160 ± 0.009	19	L1	—	56 ± 4	68 ± 5	—
2MASSW J0058425-065123	47	00 58 42.53	-06 51 23.9	14.31 ± 0.03	12.90 ± 0.03	0.229 ± 0.028	-0.200 ± 0.024	17	L0	—	33 ± 2	47 ± 6	—
2MASS J01025100-3737438	93	01 02 51.00	-37 37 43.8	11.13 ± 0.02	10.07 ± 0.02	1.456 ± 0.003	0.262 ± 0.004	13	M8	—	12.2 ± 0.4[g]	85.6 ± 2.9	—
2MASSI J0103320+193536	47	01 03 32.03	+19 35 36.1	16.29 ± 0.08	14.15 ± 0.06	0.305 ± 0.017	0.035 ± 0.014	10	L6	—	23 ± 2	33 ± 4	—

Table 3—Continued

Source Name (1)	Ref. (2)	RA (J2000) (3)	DEC (J2000) (4)	2MASS J (mag) (5)	2MASS K_s (mag) (6)	$\mu_\alpha cos(\delta)$ ($''$/yr) (7)	μ_δ ($''$/yr) (8)	μ Ref. (9)	SpT (opt) (10)	SpT (IR) (11)	Distance (pc) (12)	V_{tan} (km s^{-1}) (14)	Note[r] (15)	Epoch (16)
2MASSI J0104075-005328	3	01 04 07.50	-00 53 28.3	16.53 ± 0.13	15.33 ± 0.18	0.473 ± 0.018	-0.021 ± 0.018	19	L4.5	—	44 ± 5	99 ± 11	—	1998.7
2MASS J01062285-5933185	74	01 06 22.85	-59 33 18.5	14.33 ± 0.04	13.01 ± 0.04	0.046 ± 0.010	-0.198 ± 0.020	19	L0	—	33 ± 4	32 ± 5	—	1999.8
2MASS J01071607-1517577	20	01 07 16.07	-15 17 57.7	13.34 ± 0.02	12.28 ± 0.02	-0.031 ± 0.016	0.011 ± 0.017	19	M7	—	33 ± 4	5 ± 3	—	1998.6
SDSSp J010752.33+004156.1	32	01 07 52.42	+00 41 56.3	15.82 ± 0.06	13.71 ± 0.04	0.628 ± 0.007	0.091 ± 0.004	44	L8	L5.5	15.6 ± 1.1[q]	46.9 ± 3.3	—	2000.7
SSSPM J0109-4955	61	01 09 09.18	-49 54 53.2	13.55 ± 0.02	12.45 ± 0.03	0.095 ± 0.013	0.168 ± 0.020	19	—	L1	20 ± 1	19 ± 2	—	1999.8
2MASS J01092170+2949255	57	01 09 21.70	+29 49 25.5	12.91 ± 0.02	11.68 ± 0.02	1.014 ± 0.019	0.348 ± 0.019	29	M9.5	—	18 ± 1	93 ± 6	—	1997.8
2MASS J01095117-0343264	57	01 09 51.17	-03 43 26.4	11.69 ± 0.02	10.43 ± 0.03	0.360 ± 0.002	0.018 ± 0.002	13	M9	—	9.6 ± 0.2[g]	16.4 ± 0.4	—	1998.7
2MASS J01165457-1357342	74	01 16 54.57	-13 57 34.2	14.21 ± 0.03	12.97 ± 0.03	-0.026 ± 0.022	-0.110 ± 0.022	19	M9	—	35 ± 2	19 ± 4	—	2000.6
2MASSI J0117474-340325	19	01 17 47.48	-34 03 25.8	15.18 ± 0.04	13.49 ± 0.04	0.080 ± 0.017	-0.062 ± 0.020	19	L2	—	38 ± 6	18 ± 4	—	1998.9
2MASS J01204916-0741036	57	01 20 49.16	-07 41 03.6	12.99 ± 0.03	11.85 ± 0.02	-0.013 ± 0.019	-0.115 ± 0.019	29	M8	—	23 ± 4	13 ± 3	—	1998.8
2MASS J01231125-6921379	20	01 23 11.25	-69 21 37.9	12.32 ± 0.02	11.32 ± 0.03	0.10 ± 0.11	-0.03 ± 0.07	36	M7.5	—	19 ± 2	10 ± 10	—	1998.8
SSSPM J0124-4240	61	01 23 59.05	-42 40 07.3	13.15 ± 0.02	12.04 ± 0.02	-0.145 ± 0.004	-0.229 ± 0.007	30	M8	L2.5	25 ± 2	32 ± 3	—	2000.6
2MASS J01244599-5745379	74	01 24 45.99	-57 45 37.9	16.31 ± 0.11	14.32 ± 0.09	-0.003 ± 0.010	0.018 ± 0.019	19	L0	—	82 ± 10	7 ± 7	LG	1999.8
2MASSI J0125369-343505	43	01 25 36.89	-34 35 04.9	15.52 ± 0.06	13.90 ± 0.05	0.151 ± 0.016	0.036 ± 0.019	19	L2	—	44 ± 3	32 ± 4	—	1998.9
2MASS J01273917+2805536	51	01 27 39.17	+28 05 53.6	14.04 ± 0.03	12.86 ± 0.03	-0.1334 ± 0.0003	-0.1348 ± 0.0003	15	M8.5	—	32.8 ± 0.3[h]	29.5 ± 0.2	—	1997.8
2MASS J01282664-5545343	45	01 28 26.64	-55 45 34.3	13.78 ± 0.03	12.34 ± 0.03	-0.249 ± 0.019	0.154 ± 0.019	22	—	L1	23 ± 1	31 ± 3	—	1999.8
2MASS J01303563-4445411	74	01 30 35.63	-44 45 41.1	14.07 ± 0.03	12.87 ± 0.03	0.120 ± 0.014	-0.025 ± 0.020	19	M9	—	33 ± 2	19 ± 3	—	1999.8
2MASS J01311838+3801554	20	01 31 18.38	+38 01 55.4	14.68 ± 0.03	13.05 ± 0.03	0.373 ± 0.012	-0.031 ± 0.015	19	L4	—	21 ± 4	37 ± 8	—	1998.8
SSSPM J0134-6315	61	01 33 32.48	-63 14 41.5	14.51 ± 0.04	13.70 ± 0.04	0.077 ± 0.008	-0.081 ± 0.009	30	—	L0	36 ± 2	19 ± 2	—	1999.9
2MASSW J0135358+120522	47	01 35 35.86	+12 05 21.6	14.41 ± 0.03	12.92 ± 0.03	-0.042 ± 0.023	-0.422 ± 0.023	19	L1.5	—	28 ± 2	57 ± 5	—	2000.7
IPMS J013656.57+093347.3	1	01 36 56.62	+09 33 47.3	13.46 ± 0.03	12.56 ± 0.02	1.241 ± 0.009	-0.004 ± 0.011	1	—	T2.5	6.0 ± 0.4	36 ± 2	—	2000.7
2MASSW J0141032+180450	105	01 41 03.21	+18 04 50.2	13.88 ± 0.03	12.49 ± 0.03	0.403 ± 0.011	-0.045 ± 0.012	19	L1	L4.5	24 ± 2	46 ± 3	—	1998.8
2MASS J01411479-2417311	19	01 41 14.79	-24 17 31.1	13.42 ± 0.02	12.30 ± 0.02	-0.161 ± 0.017	-0.303 ± 0.019	19	M7.5	—	31 ± 3	51 ± 6	—	1998.8
2MASS J01415823-4633574	48	01 41 58.23	-46 33 57.4	14.83 ± 0.04	13.10 ± 0.03	0.104 ± 0.017	-0.026 ± 0.024	19	L0	L0	42 ± 5	21 ± 4	LG	1999.7
2MASS 0142+0523	110	01 42 31.53	+05 23 28.5	15.91 ± 0.08	15.60 ± 0.26	0.56 ± 0.05	-0.29 ± 0.05	47	sdM8.5	—	65 ± —	194 ± —	—	2000.7
2MASS J01443536-0716142	59	01 44 35.36	-07 16 14.2	14.19 ± 0.03	12.27 ± 0.02	0.395 ± 0.018	-0.204 ± 0.018	19	L5	—	12 ± 1	24 ± 2	—	1998.8
2MASS J01460119-4545263	74	01 46 01.19	-45 45 26.3	14.40 ± 0.04	13.03 ± 0.03	0.121 ± 0.016	0.060 ± 0.023	19	M9	—	39 ± 2	25 ± 4	—	2000.8
2MASS J01463192+0641153	56	01 46 31.92	+06 41 15.3	13.47 ± 0.02	12.35 ± 0.03	-0.079 ± 0.010	-0.249 ± 0.010	28	M7.5	—	32 ± 3	39 ± 4	—	2000.7
2MASS J01473282-4954478	74	01 47 32.82	-49 54 47.8	13.06 ± 0.03	11.92 ± 0.02	-0.014 ± 0.001	-0.288 ± 0.026	16	M8	—	33 ± 6[ee]	45 ± 9	CB	1999.8
2MASSW J0147334+345311	46	01 47 33.44	+34 53 11.2	14.95 ± 0.04	13.57 ± 0.04	0.037 ± 0.009	-0.055 ± 0.011	19	L0.5	—	41 ± 3	13 ± 2	—	1997.9
2MASS J01483864-3024396	19	01 48 38.64	-30 24 39.6	12.30 ± 0.02	11.23 ± 0.02	-0.11 ± 0.10	0.10 ± 0.09	36	M7.5	—	18 ± 2	13 ± 9	—	1998.8
2MASS J01490895+2956131	46	01 49 08.95	+29 56 13.1	13.45 ± 0.02	11.98 ± 0.02	0.1757 ± 0.0008	-0.4021 ± 0.0007	15	M9.5	—	22.5 ± 0.4[h]	46.8 ± 0.7	—	1997.8
SDSS J015141.69+124429.6	32	01 51 41.55	+12 44 30.0	16.57 ± 0.13	15.18 ± 0.19	0.742 ± 0.004	-0.037 ± 0.002	44	—	T1	21.4 ± 1.6[q]	75.3 ± 5.5	—	1997.7
2MASS J01550354+0950003	46	01 55 03.54	+09 50 00.3	14.83 ± 0.04	13.14 ± 0.04	0.338 ± 0.023	-0.080 ± 0.023	19	L5	—	17 ± 3	28 ± 5	—	2000.7
2MASS J02042212-3632308	61	02 04 22.12	-36 32 30.8	13.27 ± 0.03	12.19 ± 0.03	0.193 ± 0.017	-0.034 ± 0.021	19	M9	—	23 ± 3	21 ± 3	—	1999.6
2MASSW J0205034+125142	47	02 05 03.44	+12 51 42.2	15.68 ± 0.06	13.67 ± 0.04	0.349 ± 0.011	-0.018 ± 0.011	19	L5	—	22 ± 2	37 ± 3	—	1998.7
DENIS-P J0205.4-1159	26	02 05 29.40	-11 59 29.6	14.59 ± 0.03	13.00 ± 0.03	0.4343 ± 0.0008	0.0549 ± 0.0008	15	L7	L5.5	19.8 ± 0.6[h]	41.0 ± 1.2	CB	2000.9
SDSS J020608.97+223559.2	18	02 06 08.80	+22 35 59.3	16.44 ± 0.06[a]	15.08 ± 0.06[a]	0.341 ± 0.015	-0.062 ± 0.016	19	—	L5.5	39 ± 4	64 ± 6	—	1997.8
SDSS J020735.60+135556.3	40	02 07 35.57	+13 55 56.4	15.39 ± 0.06[c]	13.84 ± 0.06[c]	0.260 ± 0.017	-0.161 ± 0.018	19	L3	L3	35 ± 3	51 ± 5	—	1998.7
SDSS J020742.48+000056.2	32	02 07 42.84	+00 00 56.4	16.80 ± 0.16	< 15.41	0.155 ± 0.011	-0.017 ± 0.006	44	—	T4.5	29 ± 9[q]	21 ± 7	—	2000.6
2MASSW J0208183+254253	47	02 08 18.33	+25 42 53.3	13.99 ± 0.03	12.59 ± 0.03	0.356 ± 0.010	-0.021 ± 0.011	19	L1	—	25 ± 2	42 ± 3	—	1997.8
2MASSW J0208236+273740	47	02 08 23.63	+27 37 40.0	15.71 ± 0.06	13.87 ± 0.05	0.217 ± 0.013	-0.110 ± 0.014	19	L5	—	24 ± 2	28 ± 3	—	1997.8
2MASSW J0208549+250048	47	02 08 54.99	+25 00 48.8	16.21 ± 0.09	14.41 ± 0.07	-0.022 ± 0.011	0.060 ± 0.012	19	L5	—	31 ± 3	9 ± 2	—	1997.8
SDSS J021128.25+141003.8	40	02 11 28.27	+14 10 03.9	16.13 ± 0.08	15.01 ± 0.12	-0.092 ± 0.010	-0.030 ± 0.010	19	L1	—	67 ± 4	31 ± 4	—	1998.7
2MASSI J0213288+444445	19	02 13 28.80	+44 44 45.3	13.49 ± 0.03	12.21 ± 0.02	-0.04 ± 0.06	-0.16 ± 0.06	36	L1.5	—	19 ± 1	15 ± 5	—	1998.8
2MASS J02150802-3040011	57	02 15 08.02	-30 40 01.1	11.62 ± 0.03	10.54 ± 0.02	0.770 ± 0.018	-0.339 ± 0.019	28	M8	—	12 ± 1	49 ± 4	—	1999.6
2MASSI J0218291-313322	19	02 18 29.13	-31 33 23.0	14.73 ± 0.04	13.15 ± 0.04	-0.165 ± 0.015	-0.138 ± 0.018	19	L3	—	26 ± 2	26 ± 3	—	1998.9
2MASS J02185792-0617499	57	02 18 57.92	-06 17 49.9	12.85 ± 0.02	11.84 ± 0.03	0.367 ± 0.019	-0.097 ± 0.019	29	M8	—	23 ± 2	41 ± 4	—	2000.8

Table 3—Continued

Source Name (1)	Ref. (2)	RA (J2000) (3)	DEC (J2000) (4)	2MASS J (mag) (5)	2MASS K_s (mag) (6)	$\mu_\alpha cos(\delta)$ ($''$/yr) (7)	μ_δ ($''$/yr) (8)	μ Ref. (9)	SpT (opt) (10)	SpT (IR) (11)	Distance (pc) (13)	V_{tan} (km s^{-1}) (14)	Note[r] (15)	Epoch (16)
2MASS J02192196+0506306	21	02 19 21.96	+05 06 30.6	14.97 ± 0.04	13.48 ± 0.04	0.190 ± 0.024	0.005 ± 0.024	19	—	L1	39 ± 5	36 ± 6	—	2000.7
SSSPM J0219-1939	62	02 19 28.07	-19 38 41.6	14.11 ± 0.03	12.91 ± 0.03	0.194 ± 0.004	-0.173 ± 0.006	31	L1	L2.5	26 ± 2	33 ± 2	—	2000.9
2MASS J02212859-6831400	74	02 21 28.46	-68 31 40.0	13.97 ± 0.03	12.81 ± 0.04	0.046 ± 0.006	-0.006 ± 0.017	19	M8	—	36 ± 6	8 ± 2	LG	1999.9
2MASS J02215494-5412054	61	02 21 54.99	-54 12 05.4	13.90 ± 0.03	12.67 ± 0.03	0.136 ± 0.010	-0.010 ± 0.017	19	M9	—	31 ± 4	20 ± 3	LG	1999.8
2MASS J02235464-5815067	74	02 23 54.46	-58 15 06.7	15.07 ± 0.05	13.42 ± 0.04	0.134 ± 0.010	0.005 ± 0.019	19	L0	—	47 ± 6	30 ± 4	LG	1999.8
2MASS J02251947-5837295	74	02 25 18.81	-58 37 29.5	13.74 ± 0.03	12.56 ± 0.03	0.085 ± 0.010	-0.030 ± 0.018	19	M9	—	28 ± 4	12 ± 2	LG	1999.8
2MASS J02271036-1624479	83	02 27 10.36	-16 24 47.9	13.57 ± 0.02	12.14 ± 0.03	0.509 ± 0.016	-0.303 ± 0.010	16	L1	—	21 ± 1	58 ± 4	—	2000.8
2MASSW J0228110+253738	105	02 28 11.01	+25 37 38.0	13.84 ± 0.03	12.47 ± 0.03	0.257 ± 0.014	-0.014 ± 0.017	10	L0	L0	26 ± 3	32 ± 4	—	1998.8
2MASS J02283305+1811097	19	02 28 33.05	+18 11 09.7	13.23 ± 0.02	12.26 ± 0.02	0.182 ± 0.010	-0.086 ± 0.010	28	M7	—	32 ± 4	30 ± 4	—	1997.8
2MASS J02284243+1639329	105	02 28 42.43	+16 39 32.9	13.17 ± 0.03	11.82 ± 0.02	0.422 ± 0.020	-0.412 ± 0.021	19	L0	—	19 ± 2	54 ± 7	—	1999.8
2MASS J02284355-6325052	45	02 28 43.55	-63 25 05.2	13.56 ± 0.03	12.25 ± 0.03	0.593 ± 0.010	0.458 ± 0.023	19	—	L0	23 ± 3	82 ± 10	—	2000.8
2MASS J02301551+2704061	20	02 30 15.51	+27 04 06.1	14.29 ± 0.03	12.99 ± 0.02	0.189 ± 0.008	-0.007 ± 0.010	19	L0	—	33 ± 4	29 ± 4	—	1998.8
SDSS J023547.56-084919.8	40	02 35 47.56	-08 49 19.8	15.57 ± 0.06	14.19 ± 0.07	-0.044 ± 0.013	0.013 ± 0.013	19	L2	—	45 ± 3	10 ± 3	—	1998.8
GJ 1048B	34	02 35 59.93	-23 31 20.5	< 12.69	12.19 ± 0.08	0.085 ± 0.001	0.0130 ± 0.0008	34	L1	L1	21.3 ± 0.5[l]	8.6 ± 0.2	VLMC	1998.9
SDSSp J023617.93+004855.0	32	02 36 17.94	+00 48 54.8	16.10 ± 0.08	14.67 ± 0.09	0.123 ± 0.012	-0.176 ± 0.012	19	L6	L6.5	29 ± 3	30 ± 3	—	2000.7
2MASSI J0239424-173547	19	02 39 42.45	-17 35 47.1	14.29 ± 0.03	13.04 ± 0.03	0.042 ± 0.017	-0.095 ± 0.018	19	L0	—	33 ± 2	16 ± 3	—	1998.6
2MASS J02402950+2832576	57	02 40 29.50	+28 32 57.6	12.67 ± 0.02	11.63 ± 0.02	0.046 ± 0.019	-0.192 ± 0.019	29	M7.5	—	22 ± 2	21 ± 3	—	1997.9
2MASSI J0241536-124106	19	02 41 53.67	-12 41 06.9	15.61 ± 0.07	13.93 ± 0.06	0.312 ± 0.016	-0.040 ± 0.017	19	L2	—	46 ± 7	68 ± 11	—	1998.6
2MASSW J0242435+160739	46	02 42 43.55	+16 07 39.2	15.78 ± 0.05	14.35 ± 0.06	0.152 ± 0.011	-0.210 ± 0.012	19	L1.5	—	53 ± 4	66 ± 5	—	1998.7
2MASSI J0243137-245329	10	02 43 13.71	-24 53 29.8	15.42 ± 0.06[c]	15.22 ± 0.06[c]	-0.288 ± 0.004	-0.208 ± 0.003	44	—	T6	10.7 ± 0.4[q]	18.0 ± 0.7	—	1998.9
2MASS J02435103-5432194	65	02 43 51.03	-54 32 19.4	14.04 ± 0.03	12.78 ± 0.02	0.096 ± 0.011	-0.026 ± 0.019	19	M9	—	33 ± 2	15 ± 2	—	1999.8
SDSS J024749.90-163112.6	18	02 47 49.78	-16 31 13.2	16.94 ± 0.06[a]	15.76 ± 0.06[a]	0.313 ± 0.017	0.143 ± 0.017	19	—	T2	28 ± 4	46 ± 7	—	1998.6
2MASS J02484100-1651216	57	02 48 41.00	-16 51 21.6	12.55 ± 0.02	11.42 ± 0.02	0.021 ± 0.009	-0.273 ± 0.012	42	M8	—	16.8 ± 1.5[n]	21.8 ± 2.2	—	1998.6
2MASS J02511327+0047364	102	02 51 13.27	+00 47 36.4	13.77 ± 0.03	12.68 ± 0.03	0.234 ± 0.007	0.040 ± 0.004	41	M7.5	—	60 ± 8[o]	67 ± 9	—	2000.7
2MASSI J0251148-035245	19	02 51 14.90	-03 52 45.9	13.06 ± 0.03	11.66 ± 0.02	1.128 ± 0.013	-1.826 ± 0.020	10	L3	L1	12 ± 1	122 ± 11	—	1998.8
2MASS J02522628+0056223	102	02 52 26.28	+00 56 22.3	13.13 ± 0.02	11.96 ± 0.02	-0.175 ± 0.007	-0.100 ± 0.005	41	M8	—	28.4 ± 2.4[o]	27.2 ± 2.5	—	2000.7
2MASS J02530084+1652532	97	02 53 00.84	+16 52 53.2	8.39 ± 0.03	7.59 ± 0.05	3.404 ± 0.005	-3.807 ± 0.005	23	M7	—	3.84 ± 0.04[j]	92.9 ± 1.0	—	1999.8
DENIS-P J0255-4700	65	02 55 03.57	-47 00 50.9	13.25 ± 0.03	11.56 ± 0.02	1.07 ± 0.11	-0.62 ± 0.11	36	L8	L9	5.2 ± 0.3	30 ± 3	—	1998.9
SDSS J025601.86+011047.2	40	02 56 01.89	+01 10 46.7	16.21 ± 0.10	15.22 ± 0.18	0.025 ± 0.015	-0.068 ± 0.015	19	L0	—	79 ± 5	27 ± 6	—	2000.7
2MASS J02572581-3105523	49	02 57 25.81	-31 05 52.3	14.67 ± 0.04	12.88 ± 0.03	0.602 ± 0.018	0.320 ± 0.021	19	L8	—	10 ± 1	31 ± 2	—	1999.6
2MASSI J0302012+135814	47	03 02 01.22	+13 58 14.2	16.53 ± 0.12	14.63 ± 0.08	0.055 ± 0.015	-0.037 ± 0.016	19	L3	—	59 ± 5	19 ± 5	—	1997.8
SDSSp J030321.24-000938.2	90	03 03 21.23	-00 09 37.8	16.12 ± 0.07	14.88 ± 0.10	0.025 ± 0.017	-0.023 ± 0.017	19	L0	—	76 ± 5	12 ± 6	—	1998.7
2MASSW J0306268+154514	47	03 06 26.84	+15 45 13.7	17.11 ± 0.18	15.13 ± 0.14	0.212 ± 0.017	-0.071 ± 0.018	19	L6	—	36 ± 6	38 ± 7	—	1998.9
2MASSW J0309088-194938	47	03 09 08.88	-19 49 38.7	15.75 ± 0.06	14.06 ± 0.07	0.184 ± 0.016	-0.038 ± 0.017	19	L4.5	—	31 ± 3	27 ± 4	—	1998.9
2MASS J03100053+0726506	74	03 10 00.53	+07 26 50.6	12.85 ± 0.02	11.78 ± 0.02	0.539 ± 0.022	0.254 ± 0.022	19	M7.5	—	24 ± 2	67 ± 7	—	2000.7
2MASS J03101401-2756452	20	03 10 14.01	-27 56 45.2	15.80 ± 0.07	13.96 ± 0.06	-0.116 ± 0.016	-0.052 ± 0.018	19	L5	—	25 ± 2	15 ± 2	—	1998.9
2MASSW J0310599+164816	47	03 10 59.86	+16 48 15.5	16.03 ± 0.08	14.31 ± 0.07	-0.706 ± 0.019	0.119 ± 0.020	19	L8	L9	19 ± 1	63 ± 4	—	1999.8
2MASS J03134443+0433165	74	03 13 44.43	+04 33 16.5	13.67 ± 0.03	12.59 ± 0.02	-0.049 ± 0.022	0.006 ± 0.022	19	M7.5	—	35 ± 3	8 ± 4	—	2000.7
2MASS J03140344+1603056	83	03 14 03.44	+16 03 05.6	12.53 ± 0.02	11.24 ± 0.02	-0.241 ± 0.018	-0.076 ± 0.019	19	L0	—	14 ± 1	17 ± 2	—	1999.7
2MASS J03144011-0450316	19	03 14 40.11	-04 50 31.6	12.64 ± 0.02	11.60 ± 0.03	-0.068 ± 0.018	-0.119 ± 0.018	19	M7.5	—	22 ± 2	14 ± 2	—	1998.8
2MASSI J0316451-284852	19	03 16 45.12	-28 48 52.1	14.57 ± 0.04	13.11 ± 0.03	0.107 ± 0.017	-0.081 ± 0.019	19	L0	—	37 ± 5	23 ± 4	—	1998.9
2MASS J03185403-3421292	49	03 18 54.03	-34 21 29.2	15.57 ± 0.06	13.51 ± 0.04	0.365 ± 0.016	0.017 ± 0.019	19	L7	—	15 ± 1	25 ± 2	—	1998.9
2MASS J03201720-1026124	20	03 20 17.20	-10 26 12.4	13.88 ± 0.03	12.69 ± 0.03	0.013 ± 0.018	-0.100 ± 0.018	19	M8	—	35 ± 3	17 ± 3	—	1998.8
2MASSW J0320284-044636	19	03 20 28.39	-04 46 35.8	13.26 ± 0.02	12.13 ± 0.03	-0.267 ± 0.016	-0.533 ± 0.016	19	M8	L0.5	26 ± 5	75 ± 13	—	1998.7
2MASS J03205965+1854233	57	03 20 59.65	+18 54 23.3	11.76 ± 0.02	10.64 ± 0.02	0.3493 ± 0.0005	-0.2557 ± 0.0006	15	M8	—	14.5 ± 0.1[h]	29.8 ± 0.3	—	1997.8
2MASS J03231002-4631237	74	03 23 10.02	-46 31 23.7	15.39 ± 0.07	13.70 ± 0.05	0.060 ± 0.013	-0.010 ± 0.019	19	L0	—	54 ± 7	16 ± 4	LG	1999.6
2MASS J03250136+2253039	20	03 25 01.36	+22 53 03.9	15.43 ± 0.05	13.77 ± 0.05	0.405 ± 0.013	-0.146 ± 0.014	19	L3	—	36 ± 3	73 ± 7	—	1997.8
SDSS J032553.17+042540.1	18	03 25 53.22	+04 25 40.6	16.16 ± 0.06[a]	16.37 ± 0.06[a]	-0.183 ± 0.014	-0.099 ± 0.014	19	—	T5.5	19 ± 2	18 ± 3	—	2000.1

Table 3—Continued

Source Name (1)	Ref. (2)	RA (J2000) (3)	DEC (J2000) (4)	2MASS J (mag) (5)	2MASS K_s (mag) (6)	$\mu_\alpha cos(\delta)$ (″/yr) (7)	μ_δ (″/yr) (8)	μ Ref. (9)	SpT (opt) (10)	SpT (IR) (11)	Distance (pc) (13)	V_{tan} (km s^{-1}) (14)	Note[r] (15)	Epoch (16)
2MASSW J0326137+295015	46	03 26 13.67	+29 50 15.2	15.48 ± 0.05	13.84 ± 0.05	-0.0188 ± 0.0008	0.0668 ± 0.0008	15	L3.5	—	32.3 ± 1.6[h]	10.6 ± 0.5	—	1997.9
2MASS J03264225-2102057	35	03 26 42.25	-21 02 05.7	16.13 ± 0.09	13.92 ± 0.07	0.108 ± 0.014	-0.146 ± 0.015	19	L4	—	41 ± 4	35 ± 5	—	1998.9
2MASS J03274091-3148156	21	03 27 40.91	-31 48 15.6	16.09 ± 0.09	14.15 ± 0.07	0.038 ± 0.017	0.018 ± 0.020	19	—	L3	48 ± 9	10 ± 4	—	1998.9
SDSSp J032817.38+003257.2	90	03 28 17.38	+00 32 57.2	15.99 ± 0.09	14.16 ± 0.08	0.195 ± 0.013	0.033 ± 0.013	19	L3	—	46 ± 4	43 ± 5	—	2000.1
2MASS J03283463+1129515	56	03 28 34.63	+11 29 51.5	12.46 ± 0.02	11.33 ± 0.02	0.548 ± 0.010	0.247 ± 0.010	28	M8	—	18 ± 2	52 ± 4	—	2000.0
2MASSI J0328426+230205	47	03 28 42.65	+23 02 05.1	16.69 ± 0.14	14.92 ± 0.11	0.013 ± 0.003	-0.060 ± 0.005	44	L8	L9.5	30.2 ± 3.9[q]	8.7 ± 1.3	—	1997.8
2MASS J03300506+2405281	57	03 30 05.07	+24 05 28.1	12.38 ± 0.02	11.39 ± 0.02	0.175 ± 0.019	-0.050 ± 0.019	29	M7	—	21 ± 5	18 ± 5	—	1997.9
SDSSp J033017.77+000047.8	90	03 30 17.74	+00 00 47.7	16.52 ± 0.11	15.53 ± 0.18	-0.011 ± 0.018	-0.046 ± 0.018	19	L0	—	91 ± 11	20 ± 8	—	1998.7
SDSSp J033035.13-002534.5	30	03 30 35.11	-00 25 34.6	15.31 ± 0.05	13.84 ± 0.05	0.394 ± 0.015	-0.336 ± 0.015	19	L4	—	28 ± 3	69 ± 7	—	1998.7
2MASS J03313025-3042383	57	03 31 30.25	-30 42 38.3	11.36 ± 0.02	10.26 ± 0.02	0.057 ± 0.001	-0.403 ± 0.006	2	M7.5	—	13.4 ± —[e]	26.0 ± —	—	1998.9
2MASS J03320043-2317496	74	03 32 00.43	-23 17 49.6	13.61 ± 0.03	12.51 ± 0.03	-0.013 ± 0.020	-0.153 ± 0.022	19	M8	—	31 ± 3	23 ± 4	—	2000.8
2MASS J03341218-4953322	76	03 34 12.04	-49 53 32.2	11.38 ± 0.02	10.39 ± 0.02	2.308 ± 0.012	0.480 ± 0.019	19	M9	—	10 ± 1	107 ± 7	—	1999.8
2MASS J03354535+0658058	74	03 35 45.35	+06 58 05.8	13.41 ± 0.03	12.25 ± 0.02	0.029 ± 0.021	-0.333 ± 0.021	19	M8	—	28 ± 2	45 ± 5	—	2000.0
2MASSW J0337036-175807	47	03 37 03.59	-17 58 07.9	15.62 ± 0.06	13.58 ± 0.04	0.191 ± 0.031	0.115 ± 0.033	19	L4.5	—	29 ± 3	31 ± 5	—	1998.9
2MASS J03393521-3525440	57	03 39 35.21	-35 25 44.0	10.73 ± 0.02	9.55 ± 0.02	0.324 ± 0.008	0.296 ± 0.007	42	M9	—	5.0 ± 0.1[n]	10.4 ± 0.3	—	1998.9
2MASS J03400942-6724051	20	03 40 09.42	-67 24 05.1	14.74 ± 0.03	12.93 ± 0.03	-0.318 ± 0.007	0.508 ± 0.018	19	L7	—	11 ± 3	32 ± 10	—	1998.8
2MASS J03421621-6817321	20	03 42 16.21	-68 17 32.1	16.85 ± 0.14	14.54 ± 0.09	0.064 ± 0.007	0.021 ± 0.018	19	L2	—	81 ± 12	26 ± 5	—	1998.8
2MASP J0345432+254023	50	03 45 43.16	+25 40 23.3	14.00 ± 0.03	12.67 ± 0.02	-0.0960 ± 0.0003	-0.0357 ± 0.0004	15	L0	L1	27.0 ± 0.4[h]	13.1 ± 0.2	—	2000.0
2MASS J03480772-6022270	14	03 48 07.72	-60 22 27.0	15.32 ± 0.05	15.60 ± 0.23	-0.28 ± 0.04	-0.72 ± 0.04	8	—	T7	9 ± 1	32 ± 5	—	1999.9
SDSS J035048.62-051812.8	40	03 50 48.61	-05 18 12.6	16.33 ± 0.09	15.13 ± 0.13	0.012 ± 0.022	-0.028 ± 0.022	19	L1	—	73 ± 5	11 ± 8	—	2000.8
2MASS J03505737+1818069	57	03 50 57.37	+18 18 06.9	12.97 ± 0.02	11.78 ± 0.02	0.193 ± 0.010	-0.024 ± 0.010	28	M8	—	23 ± 2	21 ± 2	—	1997.8
2MASS J03510004-0052452	22	03 51 00.04	-00 52 45.2	11.30 ± 0.02	10.23 ± 0.02	0.0367 ± —	-0.5247 ± —	46	M7.5	—	14.7 ± 0.4[p]	36.6 ± 1.0	—	2000.8
SDSS J035104.37+481046.8	18	03 51 04.23	+48 10 47.7	16.46 ± 0.06[a]	15.17 ± 0.06[a]	0.312 ± 0.019	-0.180 ± 0.029	19	—	T1	23 ± 2	39 ± 5	—	2000.0
2MASS J03521086+0210479	45	03 52 10.86	+02 10 47.9	13.08 ± 0.03	11.96 ± 0.02	0.262 ± 0.025	0.373 ± 0.025	22	M9	L0	21 ± 1	45 ± 4	—	2000.1
2MASS J03540135+2316339	57	03 54 01.35	+23 16 33.9	13.12 ± 0.02	12.00 ± 0.02	0.189 ± 0.019	-0.071 ± 0.019	28	M8.5	—	23 ± 2	20 ± 2	—	1997.8
SDSS J035448.73-002742.1	54	03 54 48.55	-00 27 42.0	17.26 ± 0.06[c]	15.98 ± 0.06[c]	-0.011 ± 0.022	-0.019 ± 0.022	19	—	L2	98 ± 15	10 ± 11	—	2000.8
2MASS J03550477-1032415	19	03 55 04.77	-10 32 41.5	13.08 ± 0.03	11.98 ± 0.02	0.046 ± 0.018	-0.044 ± 0.019	19	M8.5	—	23 ± 2	7 ± 2	—	1999.1
2MASS J03552337+1133437	83	03 55 23.37	+11 33 43.7	14.05 ± 0.02	11.53 ± 0.02	0.192 ± 0.017	-0.613 ± 0.017	19	L5	—	8 ± 1	25 ± 5	LG	2000.0
2MASSW J0355419+225702	46	03 55 41.91	+22 57 01.6	16.11 ± 0.08	14.28 ± 0.06	0.146 ± 0.014	-0.025 ± 0.016	19	L3	—	49 ± 4	34 ± 5	—	1997.8
SDSS J035721.11-064126.0	40	03 57 21.10	-06 41 26.0	15.95 ± 0.08	14.60 ± 0.09	0.109 ± 0.012	0.008 ± 0.012	19	L0	—	70 ± 4	36 ± 5	—	1998.9
DENIS-P J035726.9-441730	5	03 57 26.95	-44 17 30.5	14.37 ± 0.03	12.91 ± 0.03	0.064 ± 0.013	-0.020 ± 0.019	19	L0	—	22 ± 2[bb]	7 ± 2	CB	1999.7
2MASS J03582255-4116060	74	03 58 22.55	-41 16 06.0	15.85 ± 0.09	13.84 ± 0.05	0.051 ± 0.015	0.075 ± 0.020	19	L5	—	24 ± 2	10 ± 2	—	2000.0
2MASS J04012977-4050448	74	04 01 29.77	-40 50 44.8	14.53 ± 0.04	13.18 ± 0.03	-0.036 ± 0.015	-0.102 ± 0.020	19	L0	—	36 ± 4	19 ± 4	—	1999.6
2MASS J04070752+1546457	74	04 07 07.52	+15 46 45.7	15.48 ± 0.06	13.56 ± 0.04	0.049 ± 0.019	-0.044 ± 0.020	19	L3.5	—	33 ± 3	10 ± 3	—	1999.9
2MASS J04070885+1514565	13	04 07 08.85	+15 14 56.5	16.06 ± 0.09	15.92 ± 0.26	0.106 ± 0.016	-0.110 ± 0.017	19	—	T5	17 ± 2	12 ± 2	—	1999.9
2MASS J04081032+0742494	74	04 08 10.32	+07 42 49.4	13.59 ± 0.02	12.42 ± 0.02	0.162 ± 0.020	0.095 ± 0.020	19	M8	—	31 ± 3	27 ± 4	—	1999.9
2MASSI J0408290-145033	105	04 08 29.05	-14 50 33.4	14.22 ± 0.03	12.82 ± 0.02	0.188 ± 0.017	-0.131 ± 0.018	19	L2	L4.5	24 ± 2	26 ± 3	—	1998.7
2MASSI J0409095+210439	47	04 09 09.50	+21 04 39.3	15.51 ± 0.05	13.85 ± 0.05	0.094 ± 0.015	-0.145 ± 0.016	19	L3	—	37 ± 3	30 ± 4	—	1997.8
SDSSp J041320.38-011424.9	30	04 13 20.39	-01 14 24.8	15.30 ± 0.05	14.14 ± 0.06	0.070 ± 0.017	0.001 ± 0.017	19	L0.5	—	49 ± 3	16 ± 4	—	1998.7
2MASSI J0415195-093506	10	04 15 19.54	-09 35 06.6	15.67 ± 0.06[c]	15.68 ± 0.06[c]	2.193 ± 0.003	0.527 ± 0.002	44	T8	T8	5.7 ± 0.1[q]	61.4 ± 1.0	—	1998.9
2MASS J04173745-0800007	19	04 17 37.45	-08 00 00.7	12.18 ± 0.03	11.09 ± 0.03	0.49 ± 0.09	-0.05 ± 0.09	36	M7.5	—	17 ± 2	40 ± 8	—	1998.9
2MASS J04174743-2129191	20	04 17 47.43	-21 29 19.1	13.89 ± 0.03	12.67 ± 0.03	0.072 ± 0.017	0.022 ± 0.018	19	M8	—	35 ± 3	12 ± 3	—	1998.9
2MASS J04210718-6306022	20	04 21 07.18	-63 06 02.2	15.57 ± 0.05	13.45 ± 0.04	0.146 ± 0.008	0.191 ± 0.018	19	L4	—	31 ± 3	36 ± 4	—	1998.8
SDSSp J042348.57-041403.5	32	04 23 48.58	-04 14 03.5	14.47 ± 0.03	12.93 ± 0.03	-0.323 ± 0.003	0.082 ± 0.002	44	L7.5	T0	15.2 ± 0.4[q]	24.0 ± 0.6	CB	1998.7
2MASS J04235322-0006587	19	04 23 53.22	-00 06 58.7	13.65 ± 0.02	12.48 ± 0.03	-0.13 ± 0.16	-0.24 ± 0.15	9	M8.5	—	29 ± 2	38 ± 21	—	1998.7
2MASS J04270723+0859027	74	04 27 07.23	+08 59 02.7	12.92 ± 0.03	11.73 ± 0.02	-0.121 ± 0.021	-0.005 ± 0.021	19	M8	—	23 ± 2	13 ± 2	—	1999.9
2MASSI J0428510-225323	43	04 28 50.96	-22 53 22.7	13.51 ± 0.02	12.12 ± 0.03	0.113 ± 0.012	0.155 ± 0.013	19	L0.5	—	21 ± 1	19 ± 2	—	1998.9
2MASS J04291842-3123568	19	04 29 18.42	-31 23 56.8	10.87 ± 0.02	9.77 ± 0.02	0.085 ± 0.004	0.102 ± 0.005	2	M7.5	—	15.2 ± —[e]	9.5 ± —	CB	1999.0

Table 3—Continued

Source Name (1)	Ref. (2)	RA (J2000) (3)	DEC (J2000) (4)	2MASS J (mag) (5)	2MASS K_s (mag) (6)	$\mu_\alpha cos(\delta)$ ($''$/yr) (7)	μ_δ ($''$/yr) (8)	μ Ref. (9)	SpT (opt) (10)	SpT (IR) (11)	Distance (pc) (12)	V_{tan} (km s^{-1}) (14)	Note[r] (15)	Epoch (16)
2MASS J04305157-0849007	19	04 30 51.57	-08 49 00.7	12.90 ± 0.02	11.78 ± 0.02	-0.021 ± 0.017	-0.171 ± 0.018	19	M8	—	23 ± 2	19 ± 2	—	1998.8
2MASS J04351455-1414468	19	04 35 14.55	-14 14 46.8	11.88 ± 0.03	9.95 ± 0.02	0.009 ± 0.014	0.016 ± 0.014	19	M8	—	14 ± 2	1 ± 1	LG	1998.9
2MASS J04351612-1606574	57	04 35 16.12	-16 06 57.4	10.41 ± 0.03	9.35 ± 0.02	0.167 ± 0.013	0.313 ± 0.024	17	M7	—	9 ± 1	14 ± 2	—	1998.9
2MASS J04362767+1151243	19	04 36 27.67	+11 51 24.3	13.87 ± 0.03	12.68 ± 0.02	0.117 ± 0.020	-0.009 ± 0.020	19	M9	—	29 ± 4	16 ± 4	—	1999.9
2MASS J04362788-4114465	57	04 36 27.88	-41 14 46.5	13.10 ± 0.03	12.05 ± 0.03	0.073 ± 0.012	0.013 ± 0.016	19	M8	—	25 ± 4	9 ± 2	LG	1999.0
2MASS J04365019-1803262	20	04 36 50.19	-18 03 26.2	13.65 ± 0.02	12.53 ± 0.02	0.204 ± 0.017	-0.015 ± 0.018	19	M7	—	39 ± 5	37 ± 5	—	1998.9
2MASSI J0439010-235308	19	04 39 01.01	-23 53 08.3	14.41 ± 0.03	12.82 ± 0.02	-0.110 ± 0.015	-0.152 ± 0.016	19	L6.5	—	11 ± 1	10 ± 1	—	1998.9
2MASS J04402325-0530082	57	04 40 23.25	-05 30 08.2	10.66 ± 0.02	9.55 ± 0.02	0.330 ± 0.038	0.133 ± 0.015	17	M7	—	10 ± 1	16 ± 3	—	1998.8
2MASSI J0443058-320209	43	04 43 05.81	-32 02 09.0	15.27 ± 0.05	13.88 ± 0.06	-0.013 ± 0.015	0.211 ± 0.018	19	L5	—	24 ± 2	24 ± 3	—	1999.0
2MASS J04433761+0002051	40	04 43 37.61	+00 02 05.1	12.51 ± 0.03	11.22 ± 0.02	0.028 ± 0.014	-0.099 ± 0.014	19	M9	—	16 ± 2	8 ± 2	LG	1998.8
2MASS J04441479+0543573	74	04 44 14.79	+05 43 57.3	13.67 ± 0.02	12.52 ± 0.03	0.095 ± 0.021	-0.006 ± 0.021	19	M8	—	32 ± 3	14 ± 3	—	2000.1
2MASS J04451119-0602526	19	04 45 11.19	-06 02 52.6	13.26 ± 0.03	12.22 ± 0.03	0.047 ± 0.017	0.007 ± 0.018	19	M7	—	33 ± 4	7 ± 3	—	1998.9
2MASS J04453237-3642258	19	04 45 32.37	-36 42 25.8	13.36 ± 0.03	12.26 ± 0.03	0.454 ± 0.018	-0.008 ± 0.023	19	M9	—	23 ± 3	50 ± 7	—	2000.9
2MASSI J0445538-304820	19	04 45 53.87	-30 48 20.4	13.39 ± 0.03	11.98 ± 0.02	0.183 ± 0.013	-0.393 ± 0.015	19	L2	—	17 ± 1	34 ± 3	—	1999.0
2MASS J04474307-1936045	21	04 47 43.07	-19 36 04.5	15.97 ± 0.07	14.01 ± 0.05	0.069 ± 0.022	0.088 ± 0.023	19	—	L5	26 ± 5	14 ± 4	—	2000.8
2MASSI J0451009-340214	19	04 51 00.93	-34 02 15.0	13.54 ± 0.02	12.29 ± 0.03	0.107 ± 0.017	0.138 ± 0.021	19	L0.5	—	22 ± 1	18 ± 2	—	1999.0
LEHPM 2-59	110	04 52 09.94	-22 45 08.4	15.52 ± 0.05	14.76 ± 0.11	0.433 ± 0.1	-0.575 ± 0.1	47	esdM8	—	66 ± —	235 ± —	—	1998.9
2MASSI J0453264-175154	19	04 53 26.47	-17 51 54.3	15.14 ± 0.04	13.47 ± 0.04	0.037 ± 0.017	-0.021 ± 0.018	19	L3	—	31 ± 6	6 ± 3	—	1998.7
2MASS J04553267-2701493	19	04 55 32.67	-27 01 49.3	14.43 ± 0.03	13.08 ± 0.04	0.078 ± 0.016	-0.119 ± 0.017	19	M9	—	39 ± 5	27 ± 5	—	1999.0
2MASS J04572565+6809177	56	04 57 25.65	+68 09 17.7	13.25 ± 0.03	12.13 ± 0.03	0.066 ± 0.010	-0.193 ± 0.010	28	M8	—	26 ± 2	25 ± 2	—	1999.8
2MASS J05002100+0330501	83	05 00 21.00	+03 30 50.1	13.67 ± 0.02	12.06 ± 0.02	-0.002 ± 0.021	-0.349 ± 0.021	19	L4	—	13 ± 1	22 ± 3	—	2000.1
2MASS J05012406-0010452	83	05 01 24.06	-00 10 45.2	14.98 ± 0.04	12.96 ± 0.04	0.158 ± 0.014	-0.139 ± 0.014	19	L4	—	24 ± 5	24 ± 5	LG	1998.7
2MASSI J0502134+144236	21	05 02 13.45	+14 42 36.7	14.27 ± 0.03	12.96 ± 0.03	0.060 ± 0.012	-0.022 ± 0.012	19	L0	—	32 ± 2	10 ± 2	—	1998.7
2MASS J05084947-1647167	19	05 08 49.47	-16 47 16.7	13.69 ± 0.03	12.53 ± 0.03	-0.197 ± 0.018	-0.362 ± 0.018	19	M8	—	32 ± 3	64 ± 6	—	1999.0
2MASS J05103520-4208140	63	05 10 35.20	-42 08 14.0	16.22 ± 0.09	16.00 ± 0.28	0.104 ± 0.015	0.580 ± 0.021	19	—	T5	18 ± 2	50 ± 6	—	1999.8
2MASS J05110163-4606015	61	05 11 01.63	-46 06 01.5	13.89 ± 0.03	12.71 ± 0.03	0.067 ± 0.020	0.159 ± 0.021	27	M8.5	—	33 ± 2	27 ± 4	—	1999.8
2MASSI J0512063-294954	19	05 12 06.36	-29 49 54.0	15.46 ± 0.06	13.29 ± 0.04	-0.028 ± 0.016	0.099 ± 0.018	19	L4.5	—	27 ± 3	13 ± 3	—	1999.0
2MASS J05160945-0445499	14	05 16 09.45	-04 45 49.9	15.98 ± 0.08	15.49 ± 0.20	-0.27 ± 0.03	-0.21 ± 0.03	8	—	T5.5	12 ± 2	20 ± 3	—	1998.7
2MASS J05161597-3332046	21	05 16 15.97	-33 32 04.6	15.88 ± 0.06	13.99 ± 0.05	0.059 ± 0.016	0.184 ± 0.019	19	—	L3	44 ± 8	40 ± 8	—	1999.0
2MASS J05170548-4154413	74	05 17 05.48	-41 54 41.3	13.46 ± 0.02	12.27 ± 0.02	0.089 ± 0.015	0.016 ± 0.021	19	M9	—	25 ± 2	11 ± 2	—	1999.8
2MASS J05173766-3349027	57	05 17 37.66	-33 49 02.7	12.00 ± 0.02	10.83 ± 0.02	0.428 ± 0.005	-0.306 ± 0.004	2	M8	—	17.1 ± —[e]	42.6 ± —	—	1999.0
2MASS J05184616-2756457	20	05 18 46.16	-27 56 45.7	15.26 ± 0.04	13.62 ± 0.04	0.020 ± 0.013	0.022 ± 0.014	19	L0	—	51 ± 6	7 ± 3	LG	1999.0
2MASS J05185995-2828372	19	05 18 59.95	-28 28 37.2	15.98 ± 0.10	14.16 ± 0.07	-0.065 ± 0.016	-0.282 ± 0.019	19	L7.5	T1	34 ± 6[u]	47 ± 9	CB	1999.0
2MASSI J0523382-140302	19	05 23 38.22	-14 03 02.2	13.08 ± 0.02	11.64 ± 0.03	0.090 ± 0.017	0.166 ± 0.017	19	L2.5	L5	13 ± 1	12 ± 1	—	1999.0
2MASS J05264348-4455455	45	05 26 43.48	-44 55 45.5	14.08 ± 0.03	12.71 ± 0.03	0.013 ± 0.014	-0.168 ± 0.014	22	M9.5	L1	31 ± 2	25 ± 3	—	1999.7
2MASS J05265973-5026216	74	05 26 59.73	-50 26 21.6	15.41 ± 0.07	13.64 ± 0.05	0.008 ± 0.012	0.227 ± 0.020	19	L3	—	35 ± 3	38 ± 5	—	1999.9
2MASS J05284435-3252228	19	05 28 44.35	-32 52 22.8	13.71 ± 0.03	12.61 ± 0.03	-0.029 ± 0.016	0.066 ± 0.018	19	M8.5	—	30 ± 2	10 ± 3	—	1999.0
2MASS 0532+8246	110	05 32 53.46	+82 46 46.5	15.14 ± 0.06	14.90 ± 0.15	1.99 ± 0.13	-1.67 ± 0.11	47	sdL7	—	20 ± —	247 ± —	—	1999.2
2MASS J05345844-1511439	20	05 34 58.44	-15 11 43.9	13.19 ± 0.03	11.97 ± 0.02	-0.115 ± 0.018	0.085 ± 0.018	19	M9	—	22 ± 1	15 ± 2	—	1999.0
2MASS J05361998-1920396	20	05 36 19.98	-19 20 39.6	15.77 ± 0.08	13.85 ± 0.06	0.017 ± 0.017	-0.024 ± 0.018	19	L1	—	57 ± 7	8 ± 5	—	1999.0
SOri 70	107	05 38 10.10	-02 36 26.0	19.98 ± 0.06	19.60 ± 0.08	0.010 ± 0.004	0.005 ± 0.004	45	—	T6	80 ± 20	4 ± 2	YC	1998.8
2MASS J05392474+4038437	56	05 39 24.74	+40 38 43.7	11.11 ± 0.02	10.04 ± 0.02	0.654 ± 0.010	-0.831 ± 0.010	28	M8	—	10 ± 1	49 ± 4	—	1998.9
SDSSp J053951.99-005902.0	30	05 39 52.00	-00 59 01.9	14.03 ± 0.03	12.53 ± 0.02	0.164 ± 0.002	0.316 ± 0.003	44	L5	L5	13.1 ± 0.4[q]	22.2 ± 0.7	—	1998.8
2MASS J05441150-2433018	20	05 44 11.50	-24 33 01.8	12.53 ± 0.02	11.46 ± 0.02	0.14 ± 0.03	-0.69 ± 0.03	36	M8	—	19 ± 2	63 ± 6	—	1999.0
APMPM 0559-2903	110	05 58 58.64	-29 03 36.0	14.89 ± 0.04	14.46 ± 0.08	0.37 ± 0.02	0.06 ± 0.02	47	esdM7	—	70 ± —	126 ± —	—	1999.7
2MASS J05591914-1404488	9	05 59 19.14	-14 04 48.8	13.80 ± 0.02	13.58 ± 0.05	0.563 ± 0.001	-0.346 ± 0.001	15	T5	T4.5	10.2 ± 0.1[h]	32.1 ± 0.4	—	1999.0
2MASS J06003375-3314268	19	06 00 33.75	-33 14 26.8	13.21 ± 0.03	12.01 ± 0.02	-0.015 ± 0.010	0.119 ± 0.011	9	M7.5	—	28 ± 3	16 ± 2	—	1999.1
2MASS J06020638+4043588	63	06 02 06.38	+40 43 58.8	15.54 ± 0.07	15.17 ± 0.16	0.243 ± 0.011	-0.212 ± 0.015	19	—	T4.5	14 ± 2	21 ± 3	—	1999.8

Table 3—Continued

Source Name (1)	Ref. (2)	RA (J2000) (3)	DEC (J2000) (4)	2MASS J (mag) (5)	2MASS K_s (mag) (6)	$\mu_\alpha cos(\delta)$ ($''$/yr) (7)	μ_δ ($''$/yr) (8)	μ Ref. (9)	SpT (opt) (10)	SpT (IR) (11)	Distance (pc) (12)	V_{tan} (km s^{-1}) (14)	Note[r] (15)	Epoch (16)
LSR 0602+3910	88	06 02 30.45	+39 10 59.2	12.30 ± 0.02	10.87 ± 0.02	0.146 ± 0.010	-0.501 ± 0.010	28	L1	—	11 ± 1	28 ± 2	—	1998.
2MASS J06050196-2342270	20	06 05 01.96	-23 42 27.0	14.51 ± 0.04	13.15 ± 0.03	-0.057 ± 0.017	0.082 ± 0.018	19	L0	—	36 ± 4	17 ± 4	—	1999.
2MASS J06080232-2944590	19	06 08 02.32	-29 44 59.0	13.86 ± 0.03	12.69 ± 0.03	0.030 ± 0.020	0.100 ± 0.020	9	M8.5	—	32 ± 2	16 ± 3	—	1999.
2MASS J06085283-2753583	19	06 08 52.83	-27 53 58.3	13.60 ± 0.03	12.37 ± 0.03	-0.013 ± 0.011	-0.002 ± 0.013	19	M9	—	27 ± 4	2 ± 1	LG	1999.
Gl 229B	72	06 10 34.80	-21 52 00.0	< 14.20	< 14.30	-0.1370 ± 0.0006	-0.7141 ± 0.0009	34	—	T7	5.77 ± 0.04[l]	19.9 ± 0.1	VLMC	1999.
DENIS-P J0615493-010041	75	06 15 49.34	-01 00 41.5	13.75 ± 0.03	12.54 ± 0.03	0.226 ± 0.012	-0.075 ± 0.014	35	L2	—	20 ± 3	22 ± 4	—	1998.
2MASS J06160532-4557080	74	06 16 05.32	-45 57 08.0	15.16 ± 0.04	13.60 ± 0.04	-0.057 ± 0.014	0.114 ± 0.020	19	L2	—	37 ± 3	22 ± 4	—	1999.
AB Pic b	17	06 19 12.94	-58 03 20.9	16.18 ± 0.10	14.14 ± 0.08	0.0141 ± 0.0008	0.0452 ± 0.0010	34	—	L1	45.5 ± 1.7[l]	10.2 ± 0.4	VLMC	1999.
2MASS J06193544-5249367	74	06 19 35.44	-52 49 36.7	13.63 ± 0.03	12.45 ± 0.03	0.057 ± 0.012	0.172 ± 0.020	19	M9	—	27 ± 2	23 ± 3	—	1999.
2MASS J06244595-4521548	83	06 24 45.95	-45 21 54.8	14.48 ± 0.03	12.60 ± 0.03	-0.045 ± 0.011	0.370 ± 0.015	19	L5	—	13 ± 2	24 ± 4	—	1999.
SDSS J062621.22+002934.2	40	06 26 21.21	+00 29 34.1	15.93 ± 0.09	14.86 ± 0.12	0.084 ± 0.015	-0.092 ± 0.015	19	L1	—	61 ± 4	36 ± 5	—	1999.
2MASS J06322402-5010349	74	06 32 24.02	-50 10 34.9	15.02 ± 0.04	13.34 ± 0.03	-0.103 ± 0.013	-0.018 ± 0.021	19	L3	—	30 ± 3	15 ± 2	—	1999.
2MASS J06395596-7418446	20	06 39 55.96	-74 18 44.6	15.80 ± 0.11	14.04 ± 0.08	0.000 ± 0.005	-0.002 ± 0.019	19	L5	—	26 ± 2	0 ± 2	—	1998.
2MASS J06411840-4322329	83	06 41 18.40	-43 22 32.9	13.75 ± 0.03	12.45 ± 0.03	0.189 ± 0.013	0.613 ± 0.018	19	L1.5	—	21 ± 1	64 ± 5	—	1999.
2MASS J06441439-2841417	19	06 44 14.39	-28 41 41.7	13.87 ± 0.03	12.71 ± 0.03	0.155 ± 0.011	-0.036 ± 0.011	9	M8	—	34 ± 3	26 ± 3	—	1999.
HD 49197B	69	06 49 21.40	+43 45 33.1	15.92 ± 1.20	14.29 ± 0.11	-0.035 ± 0.007	-0.049 ± 0.006	34	—	L4	44.6 ± 1.7[l]	12.7 ± 1.4	VLMC	1998.
DENIS-P J0652197-253450	75	06 52 19.77	-25 34 50.5	12.76 ± 0.02	11.52 ± 0.02	-0.233 ± 0.005	0.086 ± 0.003	35	L0	—	16 ± 1	19 ± 1	—	1999.
2MASSI J0652307+471034	19	06 52 30.73	+47 10 34.8	13.51 ± 0.02	11.69 ± 0.02	-0.05 ± 0.03	0.12 ± 0.05	36	L4.5	—	11 ± 1	7 ± 3	—	1998.
2MASS J06524851-5741376	74	06 52 48.47	-57 41 37.6	13.63 ± 0.03	12.45 ± 0.02	-0.007 ± 0.008	0.025 ± 0.015	19	M8	—	31 ± 5	4 ± 2	LG	1999.
SDSS J065405.63+652805.4	18	06 54 05.64	+65 28 05.1	16.22 ± 0.06[a]	14.62 ± 0.06[a]	-0.015 ± 0.006	0.030 ± 0.015	19	—	L6	29 ± 5	5 ± 2	—	1999.
2MASS J06572547-4019134	19	06 57 25.47	-40 19 13.4	12.73 ± 0.02	11.67 ± 0.02	-0.220 ± 0.030	0.026 ± 0.011	9	M7.5	—	23 ± 2	24 ± 4	—	1999.
2MASS J06575576+4029420	19	06 57 55.76	+40 29 42.0	13.30 ± 0.02	12.25 ± 0.02	0.001 ± 0.010	-0.276 ± 0.010	28	M8	—	27 ± 2	35 ± 3	—	1998.
2MASS J07003664+3157266	98	07 00 36.64	+31 57 26.6	12.92 ± 0.02	11.32 ± 0.02	0.130 ± 0.001	-0.546 ± 0.001	40	L3.5	—	12.2 ± 0.3[m]	32.4 ± 0.8	CB	1998.
2MASS J07075327-4900503	61	07 07 53.27	-49 00 50.3	13.23 ± 0.03	12.11 ± 0.03	-0.010 ± 0.005	0.391 ± 0.007	42	M8	—	18.8 ± 1.6[n]	34.9 ± 3.0	—	2000.
2MASSW J0708213+295035	47	07 08 21.33	+29 50 35.0	16.72 ± 0.12	14.77 ± 0.09	0.040 ± 0.014	-0.236 ± 0.016	19	L5	—	36 ± 3	41 ± 5	—	1998.
2MASS J07140394+3702459	56	07 14 03.94	+37 02 45.9	11.98 ± 0.02	10.84 ± 0.02	-0.11 ± 0.03	-0.17 ± 0.03	36	M8	—	15 ± 1	14 ± 2	—	1999.
DENIS-P J0716478-063037	75	07 16 47.90	-06 30 36.9	13.90 ± 0.04	12.57 ± 0.04	-0.016 ± 0.013	0.121 ± 0.005	35	L1	—	24 ± 3	14 ± 2	—	2000.
2MASSW J0717163+570543	105	07 17 16.26	+57 05 43.0	14.64 ± 0.03	12.95 ± 0.03	-0.016 ± 0.009	0.046 ± 0.016	19	—	L6.5	12 ± 1	3 ± 1	—	1999.
2MASS J07193188-5051410	83	07 19 31.88	-50 51 41.0	14.09 ± 0.03	12.77 ± 0.03	0.190 ± 0.013	-0.060 ± 0.020	19	L0	—	30 ± 2	28 ± 3	—	2000.
2MASS J07231462+5727081	83	07 23 14.62	+57 27 08.1	13.97 ± 0.03	12.61 ± 0.03	0.062 ± 0.011	-0.238 ± 0.020	19	L1	—	25 ± 3	29 ± 4	—	1999.
2MASSI J0727182+171001	10	07 27 18.24	+17 10 01.2	15.51 ± 0.06[c]	15.81 ± 0.06[c]	1.046 ± 0.004	-0.767 ± 0.003	44	T8	T7	9.1 ± 0.2[q]	55.8 ± 1.2	—	1997.
2MASS J07290002-3954043	63	07 29 00.02	-39 54 04.3	15.92 ± 0.08	< 15.29	-0.578 ± 0.014	1.636 ± 0.018	19	—	T8	6 ± 1	45 ± 10	—	1999.
SDSS J073922.26+661503.5	18	07 39 22.03	+66 15 03.9	16.94 ± 0.06[a]	16.02 ± 0.06[a]	0.180 ± 0.010	-0.077 ± 0.026	19	—	T1	34 ± 4	31 ± 5	—	1999.
2MASS J07394386+1305070	56	07 39 43.86	+13 05 07.0	13.91 ± 0.10	12.77 ± 0.05	-0.069 ± 0.010	-0.145 ± 0.010	28	M8	—	36 ± 3	28 ± 3	—	1997.
SDSS J074007.30+200921.9	54	07 40 07.12	+20 09 21.6	16.81 ± 0.06[c]	15.14 ± 0.06[c]	-0.185 ± 0.015	-0.111 ± 0.016	19	—	L6	36 ± 10	37 ± 10	—	1997.
2MASSW J0740096+321203	47	07 40 09.66	+32 12 03.2	16.19 ± 0.09	14.22 ± 0.06	-0.029 ± 0.010	-0.084 ± 0.012	19	L4.5	—	38 ± 4	16 ± 3	—	1998.
2MASS J07410681+1738459	57	07 41 06.81	+17 38 45.9	12.01 ± 0.02	10.94 ± 0.02	-0.198 ± 0.010	-0.506 ± 0.010	28	M7	—	18 ± 2	46 ± 6	—	1997.
SDSS J074149.15+235127.5	54	07 41 49.20	+23 51 27.5	16.14 ± 0.06[c]	16.02 ± 0.10[c]	-0.243 ± 0.013	-0.143 ± 0.014	19	—	T5	18 ± 2	24 ± 3	—	1997.
SDSS J074201.41+205520.5	54	07 42 01.30	+20 55 19.8	15.87 ± 0.06[c]	15.96 ± 0.06[c]	-0.316 ± 0.018	-0.255 ± 0.020	19	—	T5	18 ± 2	34 ± 4	—	1997.
2MASSI J0746425+200032	82	07 46 42.56	+20 00 32.1	11.76 ± 0.02	10.47 ± 0.02	-0.3740 ± 0.0003	-0.0579 ± 0.0007	15	L0.5	L1	12.21 ± 0.04[h]	21.9 ± 0.1	CB	1997.
SDSS J074756.31+394732.9	40	07 47 56.31	+39 47 32.9	15.08 ± 0.04	13.72 ± 0.05	0.052 ± 0.012	-0.057 ± 0.015	19	L0	—	47 ± 3	17 ± 3	—	1998.
DENIS-P J0751164-253043	75	07 51 16.45	-25 30 43.2	13.16 ± 0.02	11.99 ± 0.02	-0.885 ± 0.003	0.142 ± 0.005	35	L2.5	—	14 ± 1	58 ± 5	—	1999.
2MASS J07522390+1612157	57	07 52 23.90	+16 12 15.7	10.88 ± 0.02	9.85 ± 0.02	0.182 ± 0.010	-0.359 ± 0.010	28	M7	—	10 ± 1	20 ± 2	—	1997.
SDSS J075259.43+413634.6	40	07 52 59.42	+41 36 34.4	16.36 ± 0.13	< 15.19	-0.014 ± 0.020	0.041 ± 0.027	19	L0	—	84 ± 10	17 ± 11	—	1998.
2MASSI J0753321+291711	47	07 53 32.17	+29 17 11.9	15.52 ± 0.05	13.85 ± 0.04	-0.090 ± 0.012	-0.102 ± 0.013	19	L2	—	44 ± 3	28 ± 3	—	1998.
SDSS J075515.26+293445.4	54	07 55 15.28	+29 34 45.3	16.83 ± 0.06[c]	15.36 ± 0.06[c]	-0.092 ± 0.019	-0.074 ± 0.022	19	—	L3.5	62 ± 24	35 ± 15	—	1998.
2MASSI J0755480+221218	10	07 55 47.95	+22 12 16.9	15.73 ± 0.06[c]	15.98 ± 0.06[c]	-0.034 ± 0.016	-0.248 ± 0.017	19	T6	T5	18 ± 2	21 ± 2	—	1998.
2MASSI J0756252+124456	47	07 56 25.29	+12 44 56.0	16.66 ± 0.14	14.73 ± 0.12	0.004 ± 0.015	-0.056 ± 0.016	19	L6	—	30 ± 3	8 ± 2	—	1997.

Table 3—Continued

Source Name (1)	Ref. (2)	RA (J2000) (3)	DEC (J2000) (4)	2MASS J (mag) (5)	2MASS K_s (mag) (6)	$\mu_\alpha cos(\delta)$ ($''$/yr) (7)	μ_δ ($''$/yr) (8)	μ Ref. (9)	SpT (opt) (10)	SpT (IR) (11)	Distance (pc) (13)	V_{tan} (km s^{-1}) (14)	Note[r] (15)	Epoc (16)
SDSS J075656.54+231458.5	54	07 56 56.31	+23 14 57.7	16.92 ± 0.06[c]	15.04 ± 0.06[c]	0.158 ± 0.016	-0.156 ± 0.017	19	—	L3.5	65 ± 12	68 ± 14	—	1998.
SDSS J075840.33+324723.4	54	07 58 40.37	+32 47 24.5	14.99 ± 0.06[c]	13.82 ± 0.06[c]	-0.191 ± 0.014	-0.349 ± 0.017	19	—	T2	11 ± 1	22 ± 1	—	1998.
2MASS J07592947+0323564	74	07 59 29.47	+03 23 56.4	13.88 ± 0.03	12.70 ± 0.02	-0.052 ± 0.020	-0.003 ± 0.020	19	M7	—	42 ± 5	11 ± 4	—	2000.
2MASSW J0801405+462850	47	08 01 40.56	+46 28 49.8	16.35 ± 0.06[c]	14.61 ± 0.06[c]	-0.200 ± 0.009	-0.335 ± 0.013	19	L6.5	—	26 ± 2	48 ± 4	—	1998.
2MASS J08040580+6153336	56	08 04 05.80	+61 53 33.6	12.74 ± 0.02	11.45 ± 0.02	-0.05 ± 0.02	-0.63 ± 0.04	36	M9	—	18 ± 2	54 ± 8	—	1999.
2MASS J08041429+0330474	74	08 04 14.29	+03 30 47.4	13.69 ± 0.03	12.44 ± 0.02	-0.006 ± 0.020	-0.013 ± 0.020	19	M8.5	—	30 ± 2	2 ± 3	—	2000.
SDSS J080531.84+481233.0	40	08 05 31.89	+48 12 33.0	14.74 ± 0.06[c]	13.55 ± 0.06[c]	-0.455 ± 0.012	0.054 ± 0.018	19	L4	L9	15 ± 3[ii]	32 ± 6	CB-UBL	1999.
2MASS J08072607+3213101	105	08 07 26.07	+32 13 10.1	12.17 ± 0.02	11.05 ± 0.03	-0.356 ± 0.010	-0.248 ± 0.010	28	M8	—	16 ± 1	33 ± 3	—	1999.
SDSS J080959.01+443422.2	54	08 09 59.03	+44 34 21.6	16.51 ± 0.06[c]	14.34 ± 0.06[c]	-0.198 ± 0.014	-0.214 ± 0.019	19	—	L6	25 ± 5	35 ± 7	—	2000.
2MASS J08105865+1420390	33	08 10 58.65	+14 20 39.0	12.73 ± 0.02	11.59 ± 0.02	-0.034 ± 0.019	-0.128 ± 0.019	29	M8	—	21 ± 2	13 ± 2	—	1997.
DENIS-P J0812316-244442	75	08 12 31.70	-24 44 42.3	13.82 ± 0.03	12.39 ± 0.02	0.096 ± 0.004	-0.165 ± 0.006	35	L2.5	—	19 ± 3	17 ± 3	—	1999.
2MASS J08151407+1030117	74	08 15 14.07	+10 30 11.7	12.42 ± 0.02	11.33 ± 0.02	-0.059 ± 0.020	0.048 ± 0.020	19	M7	—	22 ± 3	8 ± 2	—	2000.
2MASS J08185804+2333522	33	08 18 58.04	+23 33 52.2	12.18 ± 0.02	11.15 ± 0.02	0.263 ± 0.010	-0.314 ± 0.010	28	M7	—	19 ± 2	37 ± 4	—	1998.
2MASS J08194602+1658539	19	08 19 46.02	+16 58 53.9	13.79 ± 0.02	12.62 ± 0.02	-0.160 ± 0.016	-0.035 ± 0.017	19	M9	—	29 ± 4	23 ± 4	—	1998.
2MASSW J0820299+450031	47	08 20 29.96	+45 00 31.5	16.28 ± 0.11	14.22 ± 0.07	-0.111 ± 0.009	-0.323 ± 0.012	19	L5	—	28 ± 3	46 ± 4	—	1998.
SDSS J082030.12+103737.0	18	08 20 30.13	+10 37 37.2	17.20 ± 0.06[a]	15.57 ± 0.06[a]	-0.077 ± 0.017	-0.026 ± 0.017	19	—	L9.5	30 ± 5	11 ± 3	—	2000.
DENIS-P J0823031-491201	75	08 23 03.13	-49 12 01.2	13.55 ± 0.03	12.06 ± 0.02	-0.137 ± 0.004	0.017 ± 0.001	35	L1.5	—	19 ± 1	12 ± 1	—	2000.
2MASS J08234818+2428577	83	08 23 48.18	+24 28 57.7	14.99 ± 0.04	13.38 ± 0.03	-0.170 ± 0.014	0.062 ± 0.015	19	L3	—	29 ± 3	25 ± 3	—	1999.
2MASSI J0825196+211552	47	08 25 19.68	+21 15 52.1	15.10 ± 0.03	13.03 ± 0.03	-0.510 ± 0.002	-0.288 ± 0.002	15	L7.5	L6	10.7 ± 0.1[h]	29.6 ± 0.3	—	1998.
DENIS-P J0828343-130919	75	08 28 34.19	-13 09 19.8	12.80 ± 0.03	11.30 ± 0.02	-0.547 ± 0.018	0.078 ± 0.010	35	L1	—	14 ± 2	38 ± 5	—	1999.
2MASSW J0829066+145622	47	08 29 06.64	+14 56 22.5	14.75 ± 0.03	13.17 ± 0.03	-0.048 ± 0.010	-0.244 ± 0.010	19	L2	—	31 ± 2	36 ± 3	—	1997.
2MASS J08293244-0238543	19	08 29 32.44	-02 38 54.3	13.93 ± 0.03	12.79 ± 0.04	0.004 ± 0.006	-0.003 ± 0.006	9	M8	—	36 ± 3	1 ± 1	—	1999.
2MASS J08294908-0012241	19	08 29 49.08	-00 12 24.1	13.49 ± 0.03	12.47 ± 0.03	-0.197 ± 0.017	0.175 ± 0.017	19	M7	—	36 ± 9	45 ± 12	—	1999.
2MASSW J0829570+265510	47	08 29 57.07	+26 55 09.9	17.11 ± 0.19	14.96 ± 0.10	-0.099 ± 0.015	-0.043 ± 0.017	19	L6.5	—	31 ± 3	16 ± 3	—	1998.
SDSSp J083008.12+482847.4	32	08 30 08.25	+48 28 48.2	15.44 ± 0.05	13.68 ± 0.04	-1.006 ± 0.006	-0.770 ± 0.005	44	L8	L9	13.1 ± 0.6[q]	78.6 ± 3.6	—	1999.
2MASS J08303256+0947153	57	08 30 32.56	+09 47 15.3	11.89 ± 0.02	10.76 ± 0.02	-0.500 ± 0.003	-0.449 ± 0.004	12	M7.5	—	16.7 ± 1.3[f]	53.3 ± 4.1	—	2000.
SDSS J083048.80+012831.1	54	08 30 48.78	+01 28 31.1	16.25 ± 0.06[c]	16.29 ± 0.10[c]	0.236 ± 0.020	-0.312 ± 0.020	19	—	T4.5	23 ± 3	43 ± 6	—	2000.
2MASS J08315598+1025417	74	08 31 55.98	+10 25 41.7	13.62 ± 0.03	12.45 ± 0.03	-0.049 ± 0.021	-0.184 ± 0.021	19	M9	—	27 ± 2	24 ± 3	—	2000.
2MASSW J0832045-012835	47	08 32 04.51	-01 28 36.0	14.13 ± 0.03	12.71 ± 0.03	0.070 ± 0.015	0.003 ± 0.015	19	L1.5	—	25 ± 2	8 ± 2	—	1998.
SDSS J083506.16+195304.4	18	08 35 06.22	+19 53 05.0	16.07 ± 0.06[a]	14.45 ± 0.06[a]	-0.158 ± 0.013	-0.108 ± 0.014	19	—	L4.5	36 ± 4	32 ± 4	—	1998.
2MASS J08352366+1029318	74	08 35 23.66	+10 29 31.8	13.14 ± 0.02	12.05 ± 0.02	-0.050 ± 0.022	-0.179 ± 0.022	19	M7	—	30 ± 4	27 ± 4	—	2000.
2MASSI J0835425-081923	19	08 35 42.56	-08 19 23.7	13.17 ± 0.02	11.14 ± 0.02	-0.53 ± 0.03	0.30 ± 0.03	36	L5	—	7 ± 1	20 ± 2	—	1999.
2MASS J08355829+0548308	83	08 35 58.29	+05 48 30.8	14.53 ± 0.04	13.17 ± 0.03	-0.099 ± 0.021	-0.020 ± 0.021	19	L3	—	24 ± 4	11 ± 3	—	2000.
SDSSp J083717.22-000018.3	55	08 37 17.18	-00 00 17.9	17.10 ± 0.21	< 15.67	-0.015 ± 0.008	-0.172 ± 0.017	44	T0	T1	30 ± 14[q]	24 ± 12	—	—
2MASS J08391608+1253543	19	08 39 16.08	+12 53 54.3	13.75 ± 0.02	12.59 ± 0.02	-0.044 ± 0.015	-0.127 ± 0.016	19	M9	—	28 ± 2	18 ± 2	—	1997.
2MASSI J0847287-153237	19	08 47 28.72	-15 32 37.2	13.51 ± 0.03	12.06 ± 0.02	0.145 ± 0.012	-0.183 ± 0.013	19	L2	—	17 ± 1	19 ± 2	—	1999.
2MASS J08500174-1924184	19	08 50 01.74	-19 24 18.4	12.77 ± 0.02	11.63 ± 0.02	-0.116 ± 0.017	0.045 ± 0.018	19	M8	—	21 ± 2	13 ± 2	—	1999.
2MASSs J0850359+105716	46	08 50 35.93	+10 57 15.6	16.47 ± 0.11	14.47 ± 0.07	-0.145 ± 0.002	-0.008 ± 0.002	15	L6	—	25.6 ± 2.3[h]	17.5 ± 1.6	CB	1997.
SDSS J085116.20+181730.0	18	08 51 16.27	+18 17 30.2	16.81 ± 0.06[a]	15.01 ± 0.06[a]	-0.195 ± 0.018	-0.050 ± 0.019	19	—	L4.5	50 ± 16	48 ± 15	—	1998.
SDSS J085234.90+472035.0	54	08 52 34.90	+47 20 35.9	16.30 ± 0.06[c]	14.61 ± 0.06[c]	-0.069 ± 0.018	-0.418 ± 0.026	19	—	L9.5	19 ± 2	38 ± 5	—	1998.
2MASS J08533619-0329321	51	08 53 36.19	-03 29 32.1	11.21 ± 0.03	9.94 ± 0.02	-0.5096 ± 0.0008	-0.2004 ± 0.0003	33	M9	—	8.5 ± 0.1[k]	22.1 ± 0.3	—	1999.
2MASSI J0856479+223518	19	08 56 47.93	+22 35 18.2	15.68 ± 0.07	13.95 ± 0.05	-0.208 ± 0.017	-0.006 ± 0.018	19	L3	—	35 ± 7[s]	34 ± 8	CB	1998.
2MASS J08572787-0332396	19	08 57 27.87	-03 32 39.6	14.37 ± 0.03	13.04 ± 0.03	-0.150 ± 0.018	-0.056 ± 0.018	19	M9.5	—	36 ± 2	27 ± 4	—	1998.
SDSSp J085758.45+570851.4	32	08 57 58.49	+57 08 51.4	15.04 ± 0.04	12.96 ± 0.03	-0.413 ± 0.006	-0.349 ± 0.012	19	L8	L8	10 ± 1	25 ± 2	—	1999.
SDSS J085834.42+325627.7	18	08 58 34.67	+32 56 27.5	16.52 ± 0.06[a]	14.69 ± 0.06[a]	-0.760 ± 0.023	0.075 ± 0.023	19	—	T1	18 ± 1	66 ± 3	—	1998.
2MASSI J0859254-194926	19	08 59 25.47	-19 49 26.8	15.53 ± 0.05	13.75 ± 0.06	-0.300 ± 0.013	-0.081 ± 0.014	19	L6	—	19 ± 2	28 ± 3	—	1999.
2MASS J08593854+6341355	83	08 59 38.54	+63 41 35.5	13.70 ± 0.03	12.39 ± 0.03	-0.096 ± 0.019	-0.495 ± 0.042	19	L0	—	25 ± 3	59 ± 9	—	2000.
2MASS J08594029+1145325	74	08 59 40.29	+11 45 32.5	12.74 ± 0.03	11.49 ± 0.02	-0.275 ± 0.021	-0.060 ± 0.021	19	M8	—	21 ± 2	28 ± 3	—	2000.

Table 3—Continued

Source Name (1)	Ref. (2)	RA (J2000) (3)	DEC (J2000) (4)	2MASS J (mag) (5)	2MASS K_s (mag) (6)	$\mu_\alpha cos(\delta)$ ($''$/yr) (7)	μ_δ ($''$/yr) (8)	μ Ref. (9)	SpT (opt) (10)	SpT (IR) (11)	Distance (pc) (13)	V_{tan} (km s^{-1}) (14)	Note[r] (15)	Epoch (16)
2MASS J09021459-0642099	19	09 02 14.59	-06 42 09.9	13.70 ± 0.03	12.69 ± 0.03	0.014 ± 0.010	-0.039 ± 0.009	9	M7	—	40 ± 5	8 ± 2	—	1999.1
2MASS J09033514-0637336	19	09 03 35.14	-06 37 33.6	13.67 ± 0.03	12.63 ± 0.03	-0.073 ± 0.007	0.013 ± 0.006	9	M7	—	39 ± 5	14 ± 2	—	1999.1
2MASS J09054654+5623117	74	09 05 46.54	+56 23 11.7	15.40 ± 0.05	13.73 ± 0.04	-0.014 ± 0.017	0.089 ± 0.031	19	L5	—	23 ± 4	10 ± 4	—	2000.0
2MASSI J0908380+503208	19	09 08 38.03	+50 32 08.8	14.53 ± 0.06[c]	12.93 ± 0.06[c]	-0.395 ± 0.026	-0.478 ± 0.015	10	L5	L9	16 ± 1	46 ± 4	—	1999.2
SDSS J090900.73+652527.2	18	09 09 00.85	+65 25 27.5	16.00 ± 0.06[a]	15.16 ± 0.06[a]	-0.217 ± 0.003	-0.138 ± 0.008	19	—	T1	23 ± 1	28 ± 1	—	2000.0
DENIS-P J0909-0658	27	09 09 57.49	-06 58 18.6	13.89 ± 0.02	12.54 ± 0.03	-0.210 ± 0.018	0.015 ± 0.019	19	L0	—	27 ± 2	27 ± 3	—	1999.0
2MASS J09111297+7401081	83	09 11 12.97	+74 01 08.1	12.92 ± 0.03	11.75 ± 0.03	-0.20 ± 0.04	-0.17 ± 0.04	36	L0	—	17 ± 1	21 ± 4	—	2000.2
Gl 337CD	104	09 12 14.69	+14 59 39.6	15.51 ± 0.08	14.04 ± 0.06	-0.524 ± 0.001	0.2451 ± 0.0005	34	L8	T0	20.5 ± 0.4[l]	56.2 ± 1.1	CB	1997.9
2MASSW J0913032+184150	46	09 13 03.20	+18 41 50.1	15.97 ± 0.06	14.28 ± 0.05	0.032 ± 0.016	-0.187 ± 0.017	19	L3	—	46 ± 4	41 ± 5	—	1998.0
2MASS J09130443-0733042	19	09 13 04.43	-07 33 04.2	13.40 ± 0.02	12.14 ± 0.03	-0.050 ± 0.050	-0.200 ± 0.050	9	M9	—	24 ± 2	24 ± 6	—	1999.1
2MASS J09153413+0422045	83	09 15 34.13	+04 22 04.5	14.55 ± 0.03	13.01 ± 0.04	-0.109 ± 0.025	0.031 ± 0.025	19	L7	—	15 ± 3[ee]	8 ± 2	CB	2001.1
2MASS J09161504+2139512	19	09 16 15.04	+21 39 51.2	13.22 ± 0.02	12.07 ± 0.03	-0.199 ± 0.017	-0.054 ± 0.018	19	M9	—	22 ± 3	22 ± 3	—	1998.0
2MASSW J0918382+213406	46	09 18 38.15	+21 34 05.8	15.66 ± 0.06	13.90 ± 0.04	0.330 ± 0.015	-0.156 ± 0.017	19	L2.5	—	43 ± 4	75 ± 7	—	1998.0
2MASSW J0920122+351742	47	09 20 12.23	+35 17 42.9	15.63 ± 0.06	13.98 ± 0.06	-0.167 ± 0.009	-0.200 ± 0.010	19	L6.5	T0	21 ± 3[u]	26 ± 4	CB	1998.2
2MASS J09211410-2104446	83	09 21 14.10	-21 04 44.6	12.78 ± 0.02	11.69 ± 0.02	0.244 ± 0.016	-0.908 ± 0.017	19	L2	—	12 ± 1	56 ± 4	UBL	2000.2
2MASS J09221952-8010399	83	09 22 19.52	-80 10 39.9	15.28 ± 0.05	13.68 ± 0.05	0.041 ± 0.004	-0.045 ± 0.022	19	L4	—	27 ± 6	8 ± 3	—	2000.0
SDSSp J092615.38+584720.9	32	09 26 15.37	+58 47 21.2	15.90 ± 0.07	15.45 ± 0.19	-0.19 ± 0.25	-0.23 ± 0.27	4	—	T4.5	38 ± 7[u]	54 ± 55	CB	2000.2
SDSS J092757.46+602746.3	40	09 27 57.41	+60 27 46.4	15.52 ± 0.06	14.23 ± 0.06	0.003 ± 0.013	0.016 ± 0.025	19	L1	—	51 ± 7	4 ± 6	—	1999.0
2MASS J09282562+4230545	105	09 28 25.62	+42 30 54.5	13.08 ± 0.03	11.94 ± 0.02	-0.390 ± 0.019	-0.378 ± 0.025	19	M8.5	—	23 ± 3	58 ± 9	—	1999.1
2MASSW J0928397-160312	47	09 28 39.72	-16 03 12.8	15.32 ± 0.04	13.62 ± 0.05	-0.158 ± 0.017	0.034 ± 0.017	19	L2	—	40 ± 3	31 ± 4	—	1998.2
SDSS J093109.56+032732.5	54	09 31 09.55	+03 27 33.1	16.75 ± 0.10[c]	15.65 ± 0.10[c]	-0.612 ± 0.018	-0.131 ± 0.018	19	—	L7.5	36 ± 8	108 ± 23	UBL	2000.1
2MASS J09312823+0528223	74	09 31 28.23	+05 28 22.3	12.86 ± 0.03	11.80 ± 0.02	-0.142 ± 0.021	-0.204 ± 0.021	19	M7	—	27 ± 3	31 ± 5	—	2000.1
2MASS J09342920-1352434	19	09 34 29.20	-13 52 43.4	13.04 ± 0.03	12.01 ± 0.03	-0.238 ± 0.016	-0.127 ± 0.017	19	M7	—	29 ± 7	37 ± 10	—	1998.2
2MASS J09352803-2934596	83	09 35 28.03	-29 34 59.6	14.04 ± 0.03	12.82 ± 0.03	-0.023 ± 0.016	0.064 ± 0.018	19	L0	—	29 ± 2	9 ± 3	—	1999.2
2MASSI J0937347+293142	10	09 37 34.87	+29 31 40.9	14.58 ± 0.06[c]	15.51 ± 0.12[c]	0.973 ± 0.005	-1.298 ± 0.006	44	d/sdT6	T6	6.1 ± 0.1[q]	47.2 ± 1.1	—	2000.3
2MASS J09384022-2748184	74	09 38 40.22	-27 48 18.4	13.00 ± 0.03	11.93 ± 0.02	-0.408 ± 0.017	-0.164 ± 0.020	19	M8	—	23 ± 4	49 ± 9	—	2000.1
2MASS J09393548-2448279	99	09 39 35.48	-24 48 27.9	15.98 ± 0.11	< 16.56	0.592 ± 0.019	-1.064 ± 0.021	19	—	T8	10 ± 2	57 ± 12	—	2000.1
2MASS J09424604+5531025	74	09 42 46.04	+55 31 02.5	12.92 ± 0.02	11.80 ± 0.02	-0.066 ± 0.018	0.085 ± 0.032	19	M8	—	23 ± 8	12 ± 5	—	1999.0
2MASSW J0944027+313132	47	09 44 02.79	+31 31 32.8	15.50 ± 0.05	14.01 ± 0.04	0.043 ± 0.016	-0.033 ± 0.013	10	L2	—	43 ± 3	11 ± 3	—	1998.2
2MASS J09474477+0224327	74	09 47 44.77	+02 24 32.7	13.17 ± 0.03	12.08 ± 0.03	-0.081 ± 0.020	-0.162 ± 0.020	19	M8	—	25 ± 4	22 ± 4	—	2000.1
2MASS J09490860-1545485	99	09 49 08.60	-15 45 48.5	16.15 ± 0.12	15.23 ± 0.17	-0.10 ± 0.04	0.00 ± 0.06	41	—	T2	22 ± 1	10 ± 4	—	2000.2
2MASS J09492223+0806450	57	09 49 22.23	+08 06 45.0	12.31 ± 0.02	11.21 ± 0.03	0.06 ± 0.03	-0.90 ± 0.02	36	M8.5	—	16 ± 1	67 ± 5	—	2000.2
2MASSW J0951054+355801	47	09 51 05.49	+35 58 02.1	17.23 ± 0.21	15.14 ± 0.13	-0.100 ± 0.007	-0.161 ± 0.009	44	L6	—	62 ± 36[q]	56 ± 33	VLMC	1998.2
2MASS J09532126-1014205	20	09 53 21.26	-10 14 20.5	13.47 ± 0.03	12.14 ± 0.02	-0.048 ± 0.019	-0.089 ± 0.019	19	L0	—	22 ± 1	11 ± 2	—	1999.1
2MASS J10031918-0105079	77	10 03 19.18	-01 05 07.9	12.33 ± 0.02	11.24 ± 0.02	-0.490 ± 0.019	0.022 ± 0.019	29	M7	—	21 ± 2	49 ± 6	—	1999.1
G 196-3B	81	10 04 20.66	+50 22 59.6	14.83 ± 0.05	12.78 ± 0.03	-0.133 ± 0.040	-0.185 ± 0.015	10	L2	—	32 ± 2	35 ± 5	VLMC	1999.1
2MASSW J1004392-333518	36	10 04 39.29	-33 35 18.9	14.48 ± 0.04	12.92 ± 0.02	0.366 ± 0.016	-0.340 ± 0.019	19	L4	—	19 ± 2	45 ± 5	—	1999.3
2MASS J10063197-1653266	84	10 06 31.97	-16 53 26.6	12.04 ± 0.02	10.99 ± 0.02	-0.28 ± 0.09	0.18 ± 0.08	36	M7.5	—	16 ± 2	26 ± 8	—	1998.3
SDSS J100711.74+193056.2	18	10 07 11.85	+19 30 56.3	16.90 ± 0.10[a]	15.16 ± 0.06[a]	-0.263 ± 0.015	-0.018 ± 0.016	19	—	L8	27 ± 5	34 ± 6	—	1998.1
2MASS J10073369-4555147	63	10 07 33.69	-45 55 14.7	15.65 ± 0.07	15.56 ± 0.23	-0.758 ± 0.013	0.138 ± 0.019	19	—	T5	15 ± 2	53 ± 7	—	2000.1
2MASSI J1010148-040649	19	10 10 14.80	-04 06 49.9	15.51 ± 0.06	13.62 ± 0.05	-0.321 ± 0.016	0.020 ± 0.013	10	L6	—	18 ± 2	27 ± 3	—	1999.0
2MASS J10110024+4245035	102	10 11 00.24	+42 45 03.5	13.36 ± 0.03	12.32 ± 0.02	-0.134 ± 0.006	-0.149 ± 0.006	41	M7.5	—	33.0 ± 3.2[o]	31.4 ± 3.2	—	1999.1
SSSPM 1013-1356	110	10 13 07.35	-13 56 20.4	14.59 ± 0.04	14.35 ± 0.08	0.066 ± 0.007	-1.026 ± 0.004	47	sdM9.5	—	30 ± —	147 ± —	—	1999.1
2MASS J10163470+2751497	66	10 16 34.70	+27 51 49.7	11.99 ± 0.02	10.96 ± 0.02	-0.089 ± 0.019	-0.502 ± 0.019	29	M8	—	14 ± 1	35 ± 3	—	1998.2
2MASSI J1017075+130839	19	10 17 07.54	+13 08 39.8	14.10 ± 0.02	12.71 ± 0.02	0.061 ± 0.022	-0.094 ± 0.012	10	L2	L1	33 ± 5[hh]	17 ± 4	CB	1997.9
2MASS J10184314-1624273	19	10 18 43.14	-16 24 27.3	13.74 ± 0.03	12.69 ± 0.03	0.053 ± 0.015	-0.017 ± 0.016	19	M7.5	—	36 ± 4	10 ± 3	—	1998.2
2MASSW J1018588-290953	36	10 18 58.79	-29 09 53.5	14.21 ± 0.03	12.80 ± 0.02	-0.319 ± 0.017	-0.086 ± 0.019	19	L1	—	28 ± 2	44 ± 4	—	1999.2
SDSS J102109.69-030420.1	55	10 21 09.69	-03 04 19.7	16.25 ± 0.09	15.13 ± 0.17	-0.171 ± 0.003	-0.066 ± 0.003	43	T4	T3	29.1 ± 4.0[o]	25.2 ± 2.4	CB	1998.9

Table 3—Continued

Source Name (1)	Ref. (2)	RA (J2000) (3)	DEC (J2000) (4)	2MASS J (mag) (5)	2MASS K_s (mag) (6)	$\mu_\alpha cos(\delta)$ (″/yr) (7)	μ_δ (″/yr) (8)	μ Ref. (9)	SpT (opt) (10)	SpT (IR) (11)	Distance (pc) (13)	V_{tan} (km s^{-1}) (14)	Note[r] (15)	Epoch (16)
2MASS J10212742+5055043	102	10 21 27.42	+50 55 04.3	13.39 ± 0.02	12.26 ± 0.02	-0.378 ± 0.002	0.056 ± 0.001	41	M7	—	27.5 ± 4.7[o]	49.9 ± 8.5	—	1999.0
2MASS J10213232-2044069	76	10 21 32.32	-20 44 06.9	13.19 ± 0.02	12.07 ± 0.03	-0.312 ± 0.016	-0.051 ± 0.017	19	M9	—	22 ± 1	33 ± 3	—	1999.3
2MASS J10220489+0200477	83	10 22 04.89	+02 00 47.7	14.10 ± 0.03	12.90 ± 0.03	-0.173 ± 0.018	-0.398 ± 0.016	10	M9	—	34 ± 4	69 ± 10	LG	2000.1
HD 89744B	104	10 22 14.89	+41 14 26.6	14.90 ± 0.04	13.61 ± 0.04	-0.1202 ± 0.0006	-0.1386 ± 0.0005	34	L0	—	39.0 ± 1.1[l]	33.9 ± 0.9	VLMC	1998.3
2MASS J10224821+5825453	83	10 22 48.21	+58 25 45.3	13.50 ± 0.03	12.16 ± 0.03	-0.36 ± 0.10	-0.78 ± 0.09	36	L1	—	20 ± 1	81 ± 9	—	2000.1
2MASS J10240997+1815533	33	10 24 09.97	+18 15 53.3	12.28 ± 0.02	11.24 ± 0.02	-0.144 ± 0.019	-0.070 ± 0.019	29	M8	—	16 ± 1	13 ± 2	—	1998.1
SDSS J102552.43+321234.0	18	10 25 52.27	+32 12 34.9	17.04 ± 0.10[a]	15.18 ± 0.06[a]	0.393 ± 0.011	-0.228 ± 0.013	19	—	L7.5	29 ± 10	63 ± 23	—	1999.4
2MASS J10284042-1438439	20	10 28 40.42	-14 38 43.9	13.06 ± 0.03	12.03 ± 0.02	0.024 ± 0.016	-0.162 ± 0.016	19	M7	—	30 ± 4	23 ± 4	—	1998.2
2MASSI J1029216+162652	47	10 29 21.65	+16 26 52.6	14.29 ± 0.03	12.62 ± 0.02	0.359 ± 0.015	-0.348 ± 0.017	10	L2.5	—	23 ± 2	55 ± 5	—	1997.9
2MASS J10321706+0501032	74	10 32 17.06	+05 01 03.2	13.67 ± 0.04	12.54 ± 0.02	-0.032 ± 0.021	-0.012 ± 0.021	19	M8.5	—	29 ± 2	5 ± 3	—	2000.1
SDSS J103321.92+400549.5	18	10 33 21.86	+40 05 49.9	16.88 ± 0.06[a]	15.63 ± 0.10[a]	0.154 ± 0.013	-0.188 ± 0.018	19	—	L6	45 ± 8	53 ± 10	UBL	1999.2
2MASSW J1035245+250745	47	10 35 24.55	+25 07 45.0	14.76 ± 0.03	13.29 ± 0.03	-0.181 ± 0.017	-0.272 ± 0.023	10	L1	—	36 ± 2	55 ± 5	—	1998.2
2MASSW J1036530-344138	36	10 36 53.05	-34 41 38.0	15.62 ± 0.05	13.80 ± 0.04	-0.020 ± 0.015	-0.462 ± 0.019	19	L6	—	20 ± 2	43 ± 4	—	1999.2
SDSS J103931.35+325625.5	18	10 39 31.37	+32 56 26.3	16.35 ± 0.06[a]	14.98 ± 0.06[a]	0.031 ± 0.046	-0.023 ± 0.054	19	—	T1	21 ± 1	4 ± 5	—	1998.2
2MASS J10430758+2225236	20	10 43 07.58	+22 25 23.6	15.97 ± 0.07	13.99 ± 0.04	-0.14 ± 0.00	-0.02 ± 0.00	36	L8	—	16 ± 1	11 ± 1	—	1998.1
SDSSp J104325.10+000148.2	90	10 43 25.08	+00 01 48.2	15.94 ± 0.08	14.47 ± 0.10	-0.161 ± 0.019	-0.156 ± 0.019	19	L3	—	45 ± 4	48 ± 6	—	1999.0
SDSS J104335.08+121314.1	18	10 43 35.08	+12 13 14.9	15.96 ± 0.06[a]	14.22 ± 0.06[a]	0.046 ± 0.017	-0.248 ± 0.018	19	—	L7	20 ± 3	24 ± 4	—	1998.9
SDSS J104409.43+042937.6	54	10 44 09.42	+04 29 37.6	15.98 ± 0.06[c]	14.34 ± 0.06[c]	-0.002 ± 0.012	0.094 ± 0.010	10	—	L7	21 ± 2	10 ± 1	—	2000.1
2MASS J10451718-2607249	36	10 45 17.18	-26 07 24.9	12.79 ± 0.02	11.63 ± 0.02	-0.162 ± 0.017	-0.146 ± 0.019	19	M8	—	21 ± 2	22 ± 3	—	1999.2
2MASSI J1045240-014957	36	10 45 24.00	-01 49 57.6	13.16 ± 0.02	11.78 ± 0.02	-0.495 ± 0.018	0.012 ± 0.012	10	L1	—	17 ± 1	40 ± 3	—	1999.1
DENIS-P J1047-1815	65	10 47 31.09	-18 15 57.4	14.20 ± 0.03	12.89 ± 0.03	-0.347 ± 0.017	0.054 ± 0.014	10	L2.5	—	22 ± 2	37 ± 4	—	1998.3
2MASSI J1047538+212423	7	10 47 53.85	+21 24 23.4	15.82 ± 0.06	< 16.41	-1.714 ± 0.007	-0.489 ± 0.004	44	T7	T6.5	10.6 ± 0.4[q]	86.5 ± 3.5	—	1998.1
2MASS J10481463-3956062	28	10 48 14.63	-39 56 06.2	9.54 ± 0.02	8.45 ± 0.02	-1.175 ± 0.005	-0.993 ± 0.005	13	M9	—	4.00 ± 0.03[g]	29.2 ± 0.2	—	1999.3
DENIS-P J1048278-525418	75	10 48 27.88	-52 54 18.0	14.02 ± 0.03	12.67 ± 0.03	-0.179 ± 0.009	0.033 ± 0.017	35	L1.5	—	24 ± 3	20 ± 3	—	1999.4
SDSS J104829.21+091937.8	18	10 48 29.26	+09 19 37.3	16.61 ± 0.06[a]	15.82 ± 0.06[a]	-0.268 ± 0.020	0.241 ± 0.020	19	—	T2.5	27 ± 2	46 ± 4	—	2000.2
SDSS J104842.84+011158.5	40	10 48 42.81	+01 11 58.0	12.92 ± 0.02	11.62 ± 0.02	-0.442 ± 0.013	-0.209 ± 0.012	10	L1	L4	15 ± 1	36 ± 3	—	2000.1
2MASS J10511900+5613086	83	10 51 19.00	+56 13 08.6	13.24 ± 0.03	11.91 ± 0.02	-0.231 ± 0.034	-0.288 ± 0.014	10	L2	—	15 ± 1	27 ± 3	—	1999.9
SDSS J105213.51+442255.7	18	10 52 13.50	+44 22 55.9	16.07 ± 0.06[a]	14.44 ± 0.06[a]	0.018 ± 0.017	-0.152 ± 0.024	19	—	T0.5	17 ± 1	12 ± 2	—	1998.3
2MASS J10544168+1214084	19	10 54 41.68	+12 14 08.4	12.46 ± 0.02	11.45 ± 0.02	0.103 ± 0.018	-0.080 ± 0.019	19	M7.5	—	20 ± 2	12 ± 2	—	1999.2
2MASS J10554733+0808427	74	10 55 47.33	+08 08 42.7	12.55 ± 0.03	11.37 ± 0.02	-0.35 ± 0.02	-0.10 ± 0.03	36	M8	—	19 ± 2	33 ± 3	—	2000.2
DENIS-P J1058.7-1548	26	10 58 47.87	-15 48 17.2	14.16 ± 0.04	12.53 ± 0.03	-0.2529 ± 0.0005	0.0414 ± 0.0004	15	L3	L3	17.3 ± 0.3[h]	21.1 ± 0.4	—	1998.2
2MASSI J1059513-211308	19	10 59 51.38	-21 13 08.2	14.56 ± 0.04	13.21 ± 0.03	0.134 ± 0.017	-0.158 ± 0.014	10	L1	—	33 ± 2	32 ± 3	—	1998.4
2MASS J11000965+4957470	74	11 00 09.65	+49 57 47.0	15.28 ± 0.04	13.47 ± 0.03	-0.133 ± 0.018	-0.151 ± 0.028	19	L3.5	—	30 ± 6	29 ± 7	—	1999.0
2MASS J11020983-3430355	94	11 02 09.90	-34 30 35.5	13.03 ± 0.02	11.89 ± 0.02	-0.033 ± 0.012	-0.024 ± 0.015	19	M8.5	—	22 ± 3	4 ± 2	LG	1999.2
2MASSW J1102337-235945	47	11 02 33.75	-23 59 46.4	16.72 ± 0.16	14.59 ± 0.10	-0.238 ± 0.019	0.075 ± 0.020	19	L4.5	—	48 ± 5	57 ± 7	—	2000.1
2MASSI J1104012+195921	19	11 04 01.27	+19 59 21.7	14.38 ± 0.03	12.95 ± 0.03	0.075 ± 0.015	0.139 ± 0.020	19	L4	—	18 ± 2	14 ± 2	—	2000.3
2MASS J11061197+2754225	63	11 06 11.97	+27 54 22.5	14.82 ± 0.04	13.80 ± 0.05	-0.229 ± 0.019	-0.448 ± 0.021	19	—	T2.5	11 ± 1	26 ± 2	—	2000.3
2MASSW J1108307+683017	33	11 08 30.81	+68 30 16.9	13.12 ± 0.02	11.58 ± 0.02	-0.25 ± 0.04	-0.21 ± 0.04	36	L1	—	17 ± 1	26 ± 4	—	1999.2
SDSSp J111010.01+011613.1	32	11 10 10.01	+01 16 13.0	16.34 ± 0.12	< 15.13	-0.243 ± 0.021	-0.238 ± 0.018	10	—	T5.5	11 ± 1	17 ± 2	—	2000.1
2MASS J11103321+5424028	74	11 10 33.21	+54 24 02.8	12.97 ± 0.03	11.91 ± 0.02	-0.066 ± 0.009	-0.299 ± 0.016	19	M7	—	28 ± 7	41 ± 10	—	1999.9
Gl 417BC	47	11 12 25.67	+35 48 13.1	14.58 ± 0.03	12.72 ± 0.03	-0.2486 ± 0.0007	-0.1513 ± 0.0007	34	L4.5	—	21.7 ± 0.4[l]	30.0 ± 0.6	CB	1998.4
2MASS J11124910-2044315	44	11 12 49.10	-20 44 31.5	14.92 ± 0.04	13.47 ± 0.04	0.001 ± 0.014	0.023 ± 0.015	19	—	L0.5	41 ± 11	4 ± 3	—	1998.3
SDSS J111316.95-000246.6	40	11 13 16.94	-00 02 46.7	15.08 ± 0.04	13.80 ± 0.05	0.042 ± 0.022	0.006 ± 0.013	10	L0	—	47 ± 3	9 ± 5	—	1999.0
SDSS J111320.16+343057.9	18	11 13 20.09	+34 30 58.2	17.04 ± 0.06[a]	15.38 ± 0.06[a]	0.108 ± 0.040	-0.025 ± 0.049	19	—	L3	75 ± 13	40 ± 16	—	1998.4
2MASS J11145133-2618235	99	11 14 51.33	-26 18 23.5	15.86 ± 0.08	< 16.11	-3.03 ± 0.04	-0.36 ± 0.04	41	—	T7.5	10 ± 2	140 ± 22	—	1999.2
2MASSI J1117369+360936	19	11 17 36.91	+36 09 35.9	14.27 ± 0.03	12.96 ± 0.03	0.001 ± 0.019	-0.016 ± 0.023	19	L0	—	32 ± 8	2 ± 4	—	1999.1
SDSS J112118.57+433246.5	18	11 21 18.58	+43 32 46.4	17.19 ± 0.10[a]	16.15 ± 0.08[a]	-0.057 ± 0.024	0.026 ± 0.033	19	—	L7.5	46 ± 6	14 ± 6	UBL	2000.3
2MASS J11214924-1313084	33	11 21 49.24	-13 13 08.4	11.93 ± 0.02	10.74 ± 0.02	-0.4650 ± 0.0007	-0.0503 ± 0.0007	33	M8.5	—	14.3 ± 0.4[k]	31.7 ± 1.0	CB	1998.3

Table 3—Continued

Source Name (1)	Ref. (2)	RA (J2000) (3)	DEC (J2000) (4)	2MASS J (mag) (5)	2MASS K_s (mag) (6)	$\mu_\alpha cos(\delta)$ (″/yr) (7)	μ_δ (″/yr) (8)	μ Ref. (9)	SpT (opt) (10)	SpT (IR) (11)	Distance (pc) (13)	V_{tan} (km s^{-1}) (14)	Note[r] (15)	Epo (16
2MASS J11220826-3512363	99	11 22 08.26	-35 12 36.3	15.02 ± 0.04	14.38 ± 0.07	-0.15 ± 0.04	-0.25 ± 0.03	41	—	T2	15 ± 1	20 ± 2	—	1999
2MASSW J1122362-391605	36	11 22 36.24	-39 16 05.4	15.71 ± 0.06	13.88 ± 0.05	0.073 ± 0.012	-0.180 ± 0.015	19	L3	—	41 ± 4	37 ± 4	—	1999
2MASS J11233605+1241222	19	11 23 36.05	+12 41 22.2	14.00 ± 0.02	12.81 ± 0.02	-0.036 ± 0.017	0.009 ± 0.017	19	M7	—	46 ± 5	8 ± 4	—	1998
2MASSW J1123556+412228	47	11 23 55.64	+41 22 28.6	16.07 ± 0.08	14.34 ± 0.06	-0.110 ± 0.025	-0.060 ± 0.013	10	L2.5	—	52 ± 4	31 ± 6	—	1998
2MASS J11240487+3808054	19	11 24 04.87	+38 08 05.4	12.71 ± 0.02	11.57 ± 0.03	0.130 ± 0.021	-0.019 ± 0.027	19	M8.5	—	19 ± 3	12 ± 3	—	1998
SDSS J112615.25+012048.2	54	11 26 15.28	+01 20 48.1	16.82 ± 0.06[c]	15.07 ± 0.06[c]	-0.131 ± 0.022	0.042 ± 0.022	19	—	L6	35 ± 3	23 ± 4	—	2000
2MASS J11263991-5003550	31	11 26 39.91	-50 03 55.0	14.00 ± 0.03	12.83 ± 0.03	-1.570 ± 0.004	0.438 ± 0.011	20	L4.5	L9	14 ± 1	106 ± 11	UBL	1999
2MASS J11275346+7411076	33	11 27 53.46	+74 11 07.6	13.02 ± 0.04	11.95 ± 0.03	-0.016 ± 0.019	-0.030 ± 0.019	29	M8	—	34 ± 6[w]	5 ± 3	CB	2000
2MASS J11282557+7831016	56	11 28 25.57	+78 31 01.6	13.38 ± 0.02	12.37 ± 0.02	-0.008 ± 0.010	-0.271 ± 0.010	28	M7	—	34 ± 9	44 ± 11	—	1999
2MASS J11304761-2210335	19	11 30 47.61	-22 10 33.5	13.80 ± 0.03	12.73 ± 0.03	-0.126 ± 0.017	-0.232 ± 0.018	19	M8	—	34 ± 3	43 ± 5	—	1998
2MASS J11345493+0022541	40	11 34 54.93	+00 22 54.1	12.85 ± 0.02	11.67 ± 0.02	0.401 ± 0.021	-0.343 ± 0.021	19	M9	—	19 ± 1	47 ± 4	—	2000
SDSS J113833.10+674040.3	40	11 38 33.08	+67 40 40.3	15.22 ± 0.04	13.95 ± 0.05	0.024 ± 0.014	-0.127 ± 0.037	19	L0	—	50 ± 6	31 ± 9	—	1999
2MASS J11391107+0841121	74	11 39 11.07	+08 41 12.1	12.92 ± 0.03	11.84 ± 0.02	0.089 ± 0.021	-0.025 ± 0.022	19	M7.5	—	25 ± 2	11 ± 3	—	2000
2MASS J11395113-3159214	36	11 39 51.16	-31 59 21.4	12.69 ± 0.03	11.50 ± 0.02	-0.071 ± 0.014	-0.017 ± 0.016	19	M9	—	18 ± 2	6 ± 1	LG	2000
2MASS J11414406-2232156	19	11 41 44.06	-22 32 15.6	12.63 ± 0.02	11.57 ± 0.02	-0.141 ± 0.019	0.400 ± 0.019	29	M7.5	—	22 ± 2	44 ± 5	—	1998
2MASSW J1145572+231730	46	11 45 57.14	+23 17 29.7	15.39 ± 0.05	13.95 ± 0.06	0.155 ± 0.016	-0.056 ± 0.006	10	L1.5	—	44 ± 3	35 ± 4	—	1999
2MASSW J1146345+223053	46	11 46 34.49	+22 30 52.7	14.17 ± 0.03	12.59 ± 0.03	0.0320 ± 0.0005	0.0905 ± 0.0005	15	L3	—	27.2 ± 0.6[h]	12.4 ± 0.3	CB	1999
2MASS J11465791-3914144	45	11 46 57.91	-39 14 14.4	13.64 ± 0.02	12.49 ± 0.03	-0.292 ± 0.012	0.004 ± 0.010	27	M8	—	31 ± 3	44 ± 4	—	2000
2MASS J11470479+1420095	56	11 47 04.79	+14 20 09.5	13.27 ± 0.02	12.27 ± 0.02	-0.340 ± 0.010	0.133 ± 0.010	28	M7	—	33 ± 4	56 ± 7	—	1998
SDSS J114804.26+025405.7	40	11 48 04.23	+02 54 05.7	16.11 ± 0.10	15.20 ± 0.21	0.026 ± 0.025	-0.041 ± 0.010	10	L0	—	75 ± 5	17 ± 6	—	2000
SDSS J114805.02+020350.9	40	11 48 05.02	+02 03 50.9	15.52 ± 0.07	14.51 ± 0.12	0.237 ± 0.026	-0.322 ± 0.013	10	L1	—	51 ± 3	96 ± 8	—	2000
2MASS J11485427-2544404	36	11 48 54.27	-25 44 40.4	13.40 ± 0.02	12.17 ± 0.03	0.147 ± 0.018	0.047 ± 0.020	19	M8	—	28 ± 2	21 ± 3	—	2000
2MASS J11524266+2438079	19	11 52 42.66	+24 38 07.9	13.03 ± 0.02	11.78 ± 0.02	-0.451 ± 0.032	0.036 ± 0.035	19	M9	—	21 ± 3	44 ± 6	—	1998
2MASS J11533966+5032092	83	11 53 39.66	+50 32 09.2	14.19 ± 0.03	12.85 ± 0.03	0.084 ± 0.023	0.060 ± 0.011	10	L1	—	27 ± 4	13 ± 3	—	1999
2MASS J11543399+0135545	27	11 54 33.99	+01 35 54.5	13.16 ± 0.03	11.99 ± 0.02	0.121 ± 0.022	-0.043 ± 0.022	19	M9	—	22 ± 3	13 ± 3	—	2000
2MASS J11544223-3400390	5	11 54 42.23	-34 00 39.0	14.20 ± 0.03	12.85 ± 0.03	-0.161 ± 0.013	0.004 ± 0.015	19	L0	—	31 ± 2	24 ± 2	—	1999
2MASSW J1155009+230706	46	11 55 00.87	+23 07 05.8	15.85 ± 0.09	14.08 ± 0.05	0.026 ± 0.025	0.038 ± 0.021	10	L4	—	36 ± 4	8 ± 4	—	1999
2MASSW J1155395-372735	36	11 55 39.52	-37 27 35.0	12.81 ± 0.02	11.46 ± 0.02	0.050 ± 0.012	-0.767 ± 0.015	19	L2	—	13 ± 1	46 ± 4	—	1999
2MASS J11554286-2224586	57	11 55 42.86	-22 24 58.6	10.93 ± 0.02	9.88 ± 0.02	-0.340 ± 0.083	-0.142 ± 0.035	17	M7.5	—	10 ± 1	17 ± 5	—	1999
SDSS J115553.86+055957.5	54	11 55 53.89	+05 59 57.7	15.78 ± 0.06[c]	14.11 ± 0.06[c]	-0.406 ± 0.022	-0.026 ± 0.022	19	—	L7.5	18 ± 1	35 ± 3	—	2000
DENIS-P J1157480-484442	75	11 57 48.09	-48 44 42.8	14.01 ± 0.03	12.79 ± 0.03	-0.052 ± 0.016	0.001 ± 0.001	35	L0.5	—	27 ± 3	7 ± 2	—	1999
2MASS J11580269-2545369	19	11 58 02.69	-25 45 36.9	13.58 ± 0.03	12.43 ± 0.02	-0.102 ± 0.019	-0.167 ± 0.021	19	M8	—	30 ± 2	28 ± 4	—	2000
2MASS J11582484+1354456	19	11 58 24.84	+13 54 45.6	13.93 ± 0.02	12.76 ± 0.02	-0.116 ± 0.017	0.168 ± 0.018	19	M9	—	31 ± 2	30 ± 3	—	1998
DENIS-P J1159+0057	65	11 59 38.50	+00 57 26.8	14.08 ± 0.03	12.81 ± 0.03	0.012 ± 0.023	0.007 ± 0.017	10	L0	—	30 ± 2	2 ± 3	—	2000
2MASS J12003292+2048513	57	12 00 32.92	+20 48 51.3	12.86 ± 0.02	11.86 ± 0.02	-0.159 ± 0.019	0.232 ± 0.019	29	M7	—	26 ± 3	35 ± 5	—	1999
2MASS J12022564-0629026	19	12 02 25.64	-06 29 02.6	13.74 ± 0.03	12.59 ± 0.03	0.096 ± 0.019	-0.075 ± 0.019	19	M9	—	28 ± 2	16 ± 3	—	1999
2MASS J12023666-0604054	19	12 02 36.66	-06 04 05.4	14.01 ± 0.03	12.82 ± 0.03	0.088 ± 0.018	-0.034 ± 0.018	19	M8	—	36 ± 3	16 ± 3	—	1999
SDSSp J120358.19+001550.3	30	12 03 58.12	+00 15 50.0	14.01 ± 0.03	12.48 ± 0.02	-1.209 ± 0.018	-0.261 ± 0.015	10	L3	—	19 ± 2	109 ± 10	—	2000
2MASSI J1204303+321259	19	12 04 30.36	+32 12 59.5	13.82 ± 0.04	12.52 ± 0.03	0.091 ± 0.038	-0.018 ± 0.019	10	L0	M9	26 ± 2	12 ± 5	—	2000
SDSS J120602.51+281328.7	18	12 06 02.48	+28 13 29.3	16.33 ± 0.06[a]	15.91 ± 0.06[a]	0.047 ± 0.014	-0.105 ± 0.016	19	—	T3	26 ± 2	14 ± 2	—	1998
2MASS J12070374-3151298	74	12 07 03.74	-31 51 29.8	15.85 ± 0.07	14.00 ± 0.06	-0.232 ± 0.016	-0.074 ± 0.019	19	L3	—	43 ± 8	50 ± 10	—	1999
2MASS J12073346-3932539	36	12 07 33.46	-39 32 53.9	13.00 ± 0.03	11.95 ± 0.03	-0.063 ± 0.002	-0.023 ± 0.003	21	M8	—	54.0 ± 3.0[i]	17.1 ± 1.0	CB-LG-YC	1999
2MASSW J1207334-393254B	16	12 07 33.50	-39 32 54.4	—	16.93 ± 0.11	-0.063 ± 0.002	-0.023 ± 0.003	21	—	L5	54.0 ± 3.0[i]	17.1 ± 1.0	CB	1999
2MASS J12073804-3909050	83	12 07 38.04	-39 09 05.0	14.69 ± 0.04	13.24 ± 0.04	-0.142 ± 0.011	0.031 ± 0.015	19	L4	—	21 ± 2	14 ± 2	—	1999
SDSS J120747.17+024424.8	40	12 07 47.17	+02 44 24.9	15.56 ± 0.06[c]	14.28 ± 0.06[c]	-0.498 ± 0.018	0.138 ± 0.019	10	L8	T0	16 ± 1	39 ± 3	—	2000
2MASS J12095613-1004008	13	12 09 56.13	-10 04 00.8	15.91 ± 0.07	15.06 ± 0.14	0.250 ± 0.019	-0.390 ± 0.019	19	—	T3	18 ± 1	39 ± 4	—	1999
2MASS J12123389+0206280	21	12 12 33.89	+02 06 28.0	16.13 ± 0.13	14.19 ± 0.09	0.065 ± 0.021	-0.141 ± 0.021	19	—	L1	67 ± 9	49 ± 9	—	2000
2MASSI J1213033-043243	19	12 13 03.36	-04 32 43.7	14.68 ± 0.04	13.01 ± 0.03	-0.354 ± 0.016	-0.012 ± 0.012	10	L5	—	16 ± 1	27 ± 3	—	1999

Table 3—Continued

Source Name (1)	Ref. (2)	RA (J2000) (3)	DEC (J2000) (4)	2MASS J (mag) (5)	2MASS K_s (mag) (6)	$\mu_\alpha cos(\delta)$ ($''$/yr) (7)	μ_δ ($''$/yr) (8)	μ Ref. (9)	SpT (opt) (10)	SpT (IR) (11)	Distance (pc) (13)	V_{tan} (km s^{-1}) (14)	Note[r] (15)	Epoch (16)
SDSS J121440.95+631643.4	18	12 14 40.89	+63 16 43.4	16.29 ± 0.06[a]	15.66 ± 0.06[a]	0.165 ± 0.030	-0.021 ± 0.068	19	—	T3.5	21 ± 4	17 ± 4	—	2000.0
2MASS J12154432-3420591	63	12 15 44.32	-34 20 59.1	16.24 ± 0.13	< 16.32	-0.212 ± 0.017	-0.310 ± 0.021	19	—	T4.5	23 ± 3	42 ± 5	—	2000.2
2MASS J12155348+0050498	74	12 15 53.48	+00 50 49.8	13.49 ± 0.03	12.38 ± 0.03	0.220 ± 0.020	-0.398 ± 0.020	19	M8	—	29 ± 5	63 ± 11	—	2000.2
2MASS J12162161+4456340	20	12 16 21.61	+44 56 34.0	16.35 ± 0.10	15.02 ± 0.12	-0.035 ± 0.014	-0.004 ± 0.019	19	L5	—	41 ± 7	7 ± 3	—	2000.2
SDSS J121659.17+300306.3	18	12 16 59.18	+30 03 05.4	17.01 ± 0.10[a]	15.60 ± 0.06[a]	-0.021 ± 0.017	0.115 ± 0.019	19	—	L3.5	67 ± 26	38 ± 16	—	1998.2
2MASSI J1217110-031113	7	12 17 11.10	-03 11 13.1	15.86 ± 0.06	< 15.89	-1.054 ± 0.002	0.076 ± 0.002	43	T7	T7.5	11.0 ± 0.3[o]	55.2 ± 1.4	—	1999.1
2MASS J12172935+0035326	19	12 17 29.35	+00 35 32.6	13.09 ± 0.02	12.05 ± 0.02	0.078 ± 0.026	-0.001 ± 0.026	19	M7.5	—	27 ± 3	10 ± 3	—	2001.1
2MASS J12185957-0550282	19	12 18 59.57	-05 50 28.2	14.05 ± 0.03	12.78 ± 0.03	-0.279 ± 0.019	-0.036 ± 0.019	19	M8.5	—	35 ± 3	47 ± 5	—	1999.1
SDSS J121951.45+312849.4	18	12 19 51.56	+31 28 49.7	16.00 ± 0.06[a]	14.31 ± 0.06[a]	-0.250 ± 0.026	-0.017 ± 0.031	19	—	L8	19 ± 2	22 ± 3	—	1998.2
2MASS J12212770+0257198	83	12 21 27.70	+02 57 19.8	13.17 ± 0.02	11.95 ± 0.03	-0.115 ± 0.030	-0.018 ± 0.027	10	L0	—	19 ± 1	11 ± 3	—	2000.2
2MASS J12215066-0843197	20	12 21 50.66	-08 43 19.7	13.52 ± 0.03	12.50 ± 0.02	-0.192 ± 0.019	0.015 ± 0.019	19	M8	—	30 ± 2	27 ± 3	—	1999.1
2MASS J12245222-1238352	33	12 24 52.22	-12 38 35.2	12.57 ± 0.02	11.35 ± 0.03	-0.262 ± 0.011	-0.187 ± 0.011	42	M9	—	17.5 ± 1.2[n]	26.6 ± 2.0	—	1998.2
2MASS J12255432-2739466	7	12 25 54.32	-27 39 46.6	15.26 ± 0.05	15.07 ± 0.15	0.385 ± 0.002	-0.628 ± 0.003	43	T6	T6	13.3 ± 0.4[o]	46.5 ± 1.7	CB	1998.5
2MASS 1227-0447	110	12 27 05.06	-04 47 20.7	15.50 ± 0.05	14.92 ± 0.12	0.41 ± 0.02	0.24 ± 0.01	47	esdM7.5	—	65 ± —	148 ± —	—	1999.0
2MASS J12271545-0636458	19	12 27 15.45	-06 36 45.8	14.20 ± 0.03	12.88 ± 0.04	-0.106 ± 0.019	-0.085 ± 0.019	19	M9	—	34 ± 2	22 ± 3	—	1999.1
DENIS-P J1228.2-1547	26	12 28 15.23	-15 47 34.2	14.38 ± 0.03	12.77 ± 0.03	0.134 ± 0.001	-0.180 ± 0.001	15	L5	L6	20.2 ± 0.8[h]	21.5 ± 0.8	CB	1998.2
SDSS J122855.38+005044.1	40	12 28 55.38	+00 50 44.0	15.61 ± 0.06	14.16 ± 0.08	-0.041 ± 0.021	-0.038 ± 0.021	19	L0	—	60 ± 4	16 ± 6	—	2000.2
2MASS J12312141+4959234	20	12 31 21.41	+49 59 23.4	14.62 ± 0.04	13.14 ± 0.03	-0.053 ± 0.019	-0.022 ± 0.030	19	L2	—	29 ± 4	8 ± 3	—	1999.1
2MASS J12314753+0847331	13	12 31 47.53	+08 47 33.1	15.42 ± 0.06[c]	15.35 ± 0.06[c]	-1.176 ± 0.021	-1.043 ± 0.021	19	—	T5.5	12 ± 1	87 ± 11	—	2000.2
2MASS J12321827-0951502	83	12 32 18.27	-09 51 50.2	13.73 ± 0.03	12.55 ± 0.03	-0.156 ± 0.013	-0.101 ± 0.017	10	L0	—	25 ± 2	22 ± 2	—	2000.2
2MASS J12373919+6526148	7	12 37 39.19	+65 26 14.8	16.05 ± 0.09	< 16.06	-1.002 ± 0.008	-0.525 ± 0.006	44	T7	T6.5	10.4 ± 0.5[q]	55.8 ± 2.8	—	1999.2
2MASSW J1239272+551537	47	12 39 27.27	+55 15 37.1	14.71 ± 0.03	12.79 ± 0.03	0.161 ± 0.029	0.038 ± 0.006	10	L5	—	21 ± 1[y]	17 ± 3	CB	1999.1
2MASSW J1246467+402715	47	12 46 46.78	+40 27 15.0	15.09 ± 0.05	13.28 ± 0.04	0.145 ± 0.012	-0.079 ± 0.017	10	L4	—	25 ± 3	20 ± 3	—	2000.3
2MASS J12465176+3148104	33	12 46 51.76	+31 48 10.4	12.23 ± 0.02	11.21 ± 0.02	-0.792 ± 0.019	0.050 ± 0.019	29	M7.5	—	18 ± 2	68 ± 7	—	1998.2
2MASS J12473570-1219518	19	12 47 35.70	-12 19 51.8	13.89 ± 0.03	12.72 ± 0.03	0.036 ± 0.018	-0.223 ± 0.018	19	M8.5	—	33 ± 2	35 ± 4	—	1998.2
SDSS J125011.65+392553.9	18	12 50 11.66	+39 25 58.2	16.37 ± 0.06[a]	15.99 ± 0.06[a]	-0.015 ± 0.008	-0.828 ± 0.011	19	—	T4	23 ± 2	89 ± 10	—	1998.3
2MASS J12522042-3149288	74	12 52 20.42	-31 49 28.8	13.66 ± 0.03	12.56 ± 0.03	0.166 ± 0.016	-0.032 ± 0.019	19	M8	—	32 ± 3	25 ± 3	—	1999.2
DENIS-P J1253108-570924	75	12 53 10.92	-57 09 24.8	13.45 ± 0.02	12.05 ± 0.02	-1.575 ± 0.005	-0.434 ± 0.014	35	L0.5	—	21 ± 3	162 ± 20	—	2000.2
2MASS J12531240+4034038	52	12 53 12.40	+40 34 03.8	12.19 ± 0.02	11.16 ± 0.02	0.24 ± 0.08	-0.61 ± 0.09	36	M7.5	—	17 ± 2	54 ± 10	—	1998.3
SDSSp J125453.90-012247.4	55	12 54 53.93	-01 22 47.4	14.89 ± 0.04	13.84 ± 0.05	-0.479 ± 0.002	0.130 ± 0.003	15	T2	T2	11.8 ± 0.3[h]	27.7 ± 0.6	—	1999.1
2MASS J12565688+0146163	83	12 56 56.88	+01 46 16.3	14.48 ± 0.03	12.79 ± 0.03	-0.183 ± 0.013	-0.017 ± 0.018	10	L2	—	27 ± 4	24 ± 4	—	2000.2
SDSSp J125737.26-011336.1	32	12 57 37.26	-01 13 36.0	15.94 ± 0.08	14.12 ± 0.07	0.081 ± 0.020	-0.003 ± 0.011	10	L4	L5	37 ± 4	14 ± 4	—	1999.1
2MASSW J1300425+191235	33	13 00 42.55	+19 12 35.4	12.72 ± 0.02	11.62 ± 0.02	-0.820 ± 0.018	-1.244 ± 0.019	19	L1	L3	14 ± 1	99 ± 7	UBL	1999.2
2MASS J13015465-1510223	83	13 01 54.65	-15 10 22.3	14.54 ± 0.04	13.10 ± 0.03	-0.069 ± 0.012	-0.074 ± 0.016	10	L1	—	32 ± 2	16 ± 2	—	1999.3
2MASS J13023897+0351410	74	13 02 38.97	+03 51 41.0	13.93 ± 0.03	12.77 ± 0.03	-0.039 ± 0.021	0.025 ± 0.021	19	M7.5	—	39 ± 4	9 ± 4	—	2000.2
Kelu-1	87	13 05 40.19	-25 41 05.9	13.41 ± 0.03	11.75 ± 0.02	-0.285 ± 0.001	0.011 ± 0.001	15	L2	L3	18.7 ± 0.7[h]	25.2 ± 0.9	CB	1998.4
2MASSI J1305410+204639	19	13 05 41.06	+20 46 39.4	15.20 ± 0.05	13.37 ± 0.04	-0.023 ± 0.017	0.073 ± 0.027	10	L4	—	27 ± 5	10 ± 4	—	1999.2
2MASS J13061727+3820296	83	13 06 17.27	+38 20 29.6	14.63 ± 0.03	13.22 ± 0.04	-0.175 ± 0.027	-0.008 ± 0.035	19	L1	—	34 ± 4	28 ± 6	—	2000.0
2MASS J13082507+0725512	74	13 08 25.07	+07 25 51.2	13.19 ± 0.03	12.00 ± 0.03	0.259 ± 0.021	-0.416 ± 0.021	19	M9	—	22 ± 1	51 ± 4	—	2000.2
2MASS J13092185-2330350	19	13 09 21.85	-23 30 35.0	11.79 ± 0.02	10.67 ± 0.02	0.027 ± 0.002	-0.419 ± 0.030	11	M8	—	13 ± 1	26 ± 3	—	1998.3
2MASS J13113921+8032219	33	13 11 39.21	+80 32 21.9	12.76 ± 0.02	11.68 ± 0.02	-0.068 ± 0.019	-0.348 ± 0.019	29	M8	—	29 ± 5[cc]	49 ± 9	CB	2000.1
2MASS J13120707+3937445	20	13 12 07.07	+39 37 44.5	14.17 ± 0.03	12.95 ± 0.02	-0.097 ± 0.023	0.013 ± 0.018	10	L0	—	31 ± 4	14 ± 4	—	1998.3
SDSSp J131415.52-000848.1	32	13 14 15.51	-00 08 48.0	16.66 ± 0.06[c]	15.36 ± 0.06[c]	-0.001 ± 0.023	0.073 ± 0.023	19	—	L3.5	57 ± 16	20 ± 8	—	2001.0
2MASSI J1315309-264951	39	13 15 30.94	-26 49 51.3	15.20 ± 0.05	13.46 ± 0.04	-0.678 ± 0.016	-0.280 ± 0.015	10	L5.5	—	18 ± 2	64 ± 6	—	1998.4
2MASS J13204159+0957506	74	13 20 41.59	+09 57 50.6	13.73 ± 0.03	12.61 ± 0.03	-0.236 ± 0.021	-0.129 ± 0.021	19	M7.5	—	36 ± 3	45 ± 6	—	2000.2
2MASS J13204427+0409045	83	13 20 44.27	+04 09 04.5	15.25 ± 0.05	13.62 ± 0.05	-0.483 ± 0.019	0.211 ± 0.017	10	L3	—	33 ± 3	82 ± 8	—	2000.2
DENIS-P J1323-1806	65	13 23 35.97	-18 06 37.9	14.90 ± 0.04	13.66 ± 0.05	-0.087 ± 0.015	-0.022 ± 0.019	10	L0	—	43 ± 3	18 ± 3	—	1999.2
2MASS J13235206+3014340	20	13 23 52.06	+30 14 34.0	13.64 ± 0.02	12.55 ± 0.02	-0.695 ± 0.023	0.156 ± 0.027	19	M8.5	—	30 ± 4	100 ± 15	—	2000.3

Table 3—Continued

Source Name (1)	Ref. (2)	RA (J2000) (3)	DEC (J2000) (4)	2MASS J (mag) (5)	2MASS K_s (mag) (6)	$\mu_\alpha cos(\delta)$ ($''$/yr) (7)	μ_δ ($''$/yr) (8)	μ Ref. (9)	SpT (opt) (10)	SpT (IR) (11)	Distance (pc) (12)	V_{tan} (km s^{-1}) (14)	Note[r] (15)	Epoch (16)
2MASS J13243559+6358284	63	13 24 35.59	+63 58 28.4	15.60 ± 0.07	14.06 ± 0.06	-0.343 ± 0.064	-0.260 ± 0.048	32	—	T2	13 ± 1	26 ± 6	—	2000.2
2MASSW J1326201-272937	36	13 26 20.09	-27 29 37.0	15.85 ± 0.07	13.85 ± 0.05	-0.364 ± 0.016	-0.016 ± 0.014	10	L5	—	24 ± 2	41 ± 4	—	1999.2
SDSSp J132629.82-003831.5	30	13 26 29.81	-00 38 31.4	16.37 ± 0.06[c]	14.17 ± 0.06[c]	-0.226 ± 0.008	-0.107 ± 0.006	44	L8	L5.5	20.0 ± 2.6[q]	23.8 ± 3.2	—	1999.1
2MASSW J1328550+211449	46	13 28 55.03	+21 14 48.6	16.19 ± 0.11	14.27 ± 0.08	0.219 ± 0.002	-0.428 ± 0.002	15	L5	—	32.3 ± 4.0[h]	73.6 ± 9.0	—	1999.4
2MASS J13290099-4147133	36	13 29 00.99	-41 47 13.3	13.65 ± 0.02	12.27 ± 0.02	0.231 ± 0.013	-0.280 ± 0.017	19	M9	—	27 ± 2	47 ± 4	—	1999.4
2MASS J13300232-0453202	19	13 30 02.32	-04 53 20.2	13.34 ± 0.03	12.24 ± 0.03	-0.079 ± 0.009	-0.007 ± 0.009	9	M8	—	27 ± 2	10 ± 1	—	1999.1
2MASS J13313310+3407583	83	13 31 33.10	+34 07 58.3	14.33 ± 0.03	12.89 ± 0.02	-0.353 ± 0.019	-0.169 ± 0.018	10	L0	—	33 ± 2	62 ± 5	—	2000.3
SDSS J133148.92-011651.4	40	13 31 48.94	-01 16 50.0	15.48 ± 0.06[c]	14.12 ± 0.06[c]	-0.407 ± 0.019	-1.030 ± 0.014	10	L6	L8	23 ± 2	119 ± 11	UBL	1999.1
2MASS J13322442-0441126	19	13 32 24.42	-04 41 12.6	12.37 ± 0.03	11.28 ± 0.02	0.08 ± 0.09	0.05 ± 0.08	36	M7.5	—	19 ± 2	9 ± 9	—	1999.1
2MASSI J1332286+263508	47	13 32 28.63	+26 35 07.9	16.08 ± 0.09	14.35 ± 0.08	-0.152 ± 0.012	0.041 ± 0.017	10	L2	—	57 ± 4	42 ± 5	—	1997.5
2MASSW J1334062+194034	46	13 34 06.23	+19 40 35.1	15.48 ± 0.06	14.00 ± 0.05	-0.058 ± 0.012	0.098 ± 0.016	10	L1.5	—	46 ± 3	25 ± 4	—	1997.4
2MASS J13364062+3743230	20	13 36 40.62	+37 43 23.0	14.41 ± 0.03	13.10 ± 0.02	-0.200 ± 0.009	-0.060 ± 0.014	10	L1	—	30 ± 2	30 ± 2	—	1998.3
2MASS J13373116+4938367	20	13 37 31.16	+49 38 36.7	13.77 ± 0.03	12.58 ± 0.03	0.039 ± 0.016	0.049 ± 0.025	19	L0	—	26 ± 3	8 ± 3	—	1999.4
2MASSW J1338261+414034	47	13 38 26.15	+41 40 34.2	14.22 ± 0.03	12.77 ± 0.02	-0.153 ± 0.024	-0.311 ± 0.025	10	L2.5	—	22 ± 2	37 ± 4	—	1998.3
2MASS J13384944+0437315	83	13 38 49.44	+04 37 31.5	14.16 ± 0.03	12.74 ± 0.03	0.112 ± 0.014	-0.224 ± 0.013	10	L1	—	27 ± 2	32 ± 3	—	2000.2
2MASS J13392651-1755053	19	13 39 26.51	-17 55 05.3	13.47 ± 0.03	12.32 ± 0.03	-0.190 ± 0.020	-0.070 ± 0.020	9	M7.5	—	31 ± 3	30 ± 4	—	1999.3
2MASS J13411160-3052505	83	13 41 11.60	-30 52 50.5	14.61 ± 0.03	13.08 ± 0.03	0.030 ± 0.013	-0.134 ± 0.015	19	L3	—	24 ± 2	16 ± 2	—	1999.3
SDSS J134203.11+134022.2	18	13 42 03.11	+13 40 22.2	17.03 ± 0.06[a]	15.16 ± 0.06[a]	0.000 ± 0.019	-0.027 ± 0.019	19	—	L5.5	40 ± 4	5 ± 4	—	1999.0
2MASSW J1342236+175156	46	13 42 23.62	+17 51 55.8	16.14 ± 0.08	14.59 ± 0.09	-0.070 ± 0.011	-0.002 ± 0.008	10	L2.5	—	54 ± 4	18 ± 3	—	1999.0
2MASSW J1343167+394508	47	13 43 16.70	+39 45 08.7	16.16 ± 0.07	14.15 ± 0.05	-0.343 ± 0.031	0.116 ± 0.025	10	L5	—	27 ± 2	47 ± 6	—	1998.3
2MASS J13435275-3851385	74	13 43 52.75	-38 51 38.5	13.83 ± 0.03	12.71 ± 0.02	-0.044 ± 0.014	-0.016 ± 0.018	19	M8	—	34 ± 3	8 ± 2	—	1999.3
SDSSp J134646.45-003150.4	103	13 46 46.34	-00 31 50.1	16.00 ± 0.10	15.77 ± 0.27	-0.503 ± 0.003	-0.114 ± 0.002	43	T7	T6.5	14.6 ± 0.5[o]	35.8 ± 1.4	—	2001.1
2MASS J13475911-7610054	45	13 47 59.11	-76 10 05.4	13.79 ± 0.03	12.55 ± 0.03	0.203 ± 0.005	0.038 ± 0.020	19	—	L0	26 ± 3	25 ± 3	—	2000.2
DENIS-P J1347590-761005	75	13 47 59.11	-76 10 05.4	13.79 ± 0.03	12.55 ± 0.03	0.203 ± 0.005	0.038 ± 0.020	19	L0	—	26 ± 3	25 ± 3	—	2000.2
2MASS J13480100-0304328	74	13 48 01.00	-03 04 32.8	12.74 ± 0.03	11.66 ± 0.03	0.191 ± 0.020	-0.408 ± 0.020	19	M7	—	25 ± 3	54 ± 7	—	1999.5
2MASS J13484591+0353545	83	13 48 45.91	+03 53 54.5	14.63 ± 0.03	13.23 ± 0.04	0.207 ± 0.023	-0.356 ± 0.011	10	L1	—	34 ± 4	66 ± 9	—	2000.2
2MASS J13564148+4342587	84	13 56 41.48	+43 42 58.7	11.71 ± 0.02	10.65 ± 0.02	-0.46 ± 0.07	0.07 ± 0.07	36	M7	—	16 ± 2	34 ± 7	—	1999.3
2MASS J13571237+1428398	21	13 57 12.37	+14 28 39.8	15.58 ± 0.06	13.88 ± 0.04	0.069 ± 0.052	-0.006 ± 0.053	19	—	L4	32 ± 13	10 ± 9	—	2000.0
2MASS J13571497-1438529	77	13 57 14.97	-14 38 52.9	12.87 ± 0.03	11.74 ± 0.03	-0.038 ± 0.010	-0.106 ± 0.009	9	M7	—	27 ± 3	14 ± 2	—	1998.3
SDSS J135852.68+374711.9	18	13 58 52.69	+37 47 13.7	16.43 ± 0.06[a]	16.57 ± 0.10[a]	-0.010 ± 0.013	-0.411 ± 0.016	19	—	T4.5	26 ± 12	51 ± 24	—	1998.3
SDSS J135923.99+472843.2	54	13 59 24.03	+47 28 43.1	17.11 ± 0.06[c]	15.35 ± 0.06[c]	-0.144 ± 0.010	0.034 ± 0.014	19	—	L8.5	28 ± 3	20 ± 2	—	1999.3
2MASS J13595510-4034582	83	13 59 55.10	-40 34 58.2	13.65 ± 0.03	12.57 ± 0.03	0.038 ± 0.011	-0.485 ± 0.015	19	L1	—	21 ± 1	49 ± 4	—	1999.3
SDSS J140023.12+433822.3	18	14 00 23.20	+43 38 22.2	16.30 ± 0.06[a]	14.49 ± 0.06[a]	-0.235 ± 0.020	0.012 ± 0.028	19	—	L7	23 ± 7	26 ± 8	—	1999.3
2MASS J14022235+0648479	74	14 02 22.35	+06 48 47.9	13.72 ± 0.03	12.51 ± 0.03	0.056 ± 0.021	-0.006 ± 0.021	19	M9	—	28 ± 2	8 ± 3	—	2000.2
SDSS J140231.75+014830.3	40	14 02 31.75	+01 48 30.1	15.45 ± 0.06	14.18 ± 0.07	-0.232 ± 0.014	0.008 ± 0.011	10	L1	—	49 ± 3	54 ± 5	—	2000.2
SDSS J140255.66+080055.2	18	14 02 55.64	+08 00 55.3	17.04 ± 0.06[a]	15.70 ± 0.06[a]	0.065 ± 0.021	-0.098 ± 0.022	19	—	T1	29 ± 1	16 ± 3	—	2000.2
2MASS J14032232+3007547	33	14 03 22.32	+30 07 54.7	12.68 ± 0.02	11.60 ± 0.02	-0.81 ± 0.03	0.00 ± 0.07	36	M8.5	—	19 ± 1	73 ± 6	—	1999.3
SDSS J140441.68+023550.1	40	14 04 41.67	+02 35 50.1	15.60 ± 0.06	14.53 ± 0.10	0.054 ± 0.017	-0.248 ± 0.013	10	L1	—	53 ± 3	63 ± 5	—	2000.2
2MASS J14044495+4634297	20	14 04 44.95	+46 34 29.7	14.34 ± 0.03	13.06 ± 0.03	-0.231 ± 0.030	0.143 ± 0.026	10	L0	—	33 ± 4	43 ± 7	—	1999.3
2MASS J14044941-3159329	63	14 04 49.41	-31 59 32.9	15.58 ± 0.06	14.54 ± 0.10	-0.349 ± 0.030	0.032 ± 0.003	32	—	T2.5	15 ± 1	25 ± 3	—	2001.1
2MASS J14075361+1241099	83	14 07 53.61	+12 41 09.9	15.38 ± 0.06	13.60 ± 0.04	-0.312 ± 0.019	0.082 ± 0.019	10	L5	—	21 ± 2	33 ± 4	—	2000.0
2MASS J14090310-3357565	49	14 09 03.10	-33 57 56.5	14.25 ± 0.03	12.87 ± 0.03	0.089 ± 0.012	0.047 ± 0.014	19	L2	—	24 ± 2	12 ± 2	—	1999.3
2MASSW J1411175+393636	47	14 11 17.35	+39 36 36.3	14.64 ± 0.03	13.24 ± 0.04	-0.911 ± 0.015	0.137 ± 0.016	10	L1.5	—	32 ± 2	138 ± 10	—	2000.3
2MASS J14112131-2119503	19	14 11 21.31	-21 19 50.3	12.44 ± 0.02	11.33 ± 0.02	0.0 ± 0.2	0.1 ± 0.2	25	M9	—	16 ± 1	7 ± 7	—	1998.4
2MASS J14122268+2354108	20	14 12 22.68	+23 54 10.8	13.73 ± 0.03	12.65 ± 0.02	-0.175 ± 0.036	0.068 ± 0.039	19	M9	—	29 ± 4	26 ± 6	—	2000.2
2MASSW J1412244+163312	47	14 12 24.49	+16 33 11.5	13.89 ± 0.03	12.52 ± 0.03	0.029 ± 0.016	-0.080 ± 0.030	10	L0.5	—	25 ± 2	10 ± 4	—	2000.0
2MASS J14135981-0457483	19	14 13 59.81	-04 57 48.3	13.41 ± 0.03	12.24 ± 0.03	-0.190 ± 0.050	-0.060 ± 0.040	9	M8	—	28 ± 2	27 ± 7	—	1999.1
SDSS J141530.05+572428.7	18	14 15 30.03	+57 24 30.0	16.72 ± 0.06[a]	15.49 ± 0.06[a]	0.043 ± 0.013	-0.345 ± 0.025	19	—	T3	22 ± 7	36 ± 12	—	1999.1

Table 3—Continued

Source Name (1)	Ref. (2)	RA (J2000) (3)	DEC (J2000) (4)	2MASS J (mag) (5)	2MASS K_s (mag) (6)	$\mu_\alpha cos(\delta)$ ($''$/yr) (7)	μ_δ ($''$/yr) (8)	μ Ref. (9)	SpT (opt) (10)	SpT (IR) (11)	Distance (pc) (12)	V_{tan} (km s^{-1}) (14)	Note[r] (15)
SDSS J141659.78+500626.4	18	14 16 59.87	+50 06 25.8	16.94 ± 0.06[a]	15.38 ± 0.06[a]	-0.297 ± 0.013	0.188 ± 0.021	19	—	L5.5	44 ± 31	74 ± 51	—
2MASS J14193867-3136519	74	14 19 38.67	-31 36 51.9	13.49 ± 0.02	12.35 ± 0.02	-0.041 ± 0.018	0.028 ± 0.021	19	M7	—	36 ± 4	8 ± 3	—
2MASS J14211873-1618201	36	14 21 18.73	-16 18 20.1	12.76 ± 0.02	11.67 ± 0.03	-0.230 ± 0.020	-0.070 ± 0.020	9	M7.5	—	23 ± 2	26 ± 3	—
2MASSW J1421314+182740	33	14 21 31.45	+18 27 40.7	13.23 ± 0.02	11.94 ± 0.02	-0.75 ± 0.04	-0.17 ± 0.03	36	L0	—	20 ± 1	73 ± 6	—
SDSS J142227.25+221557.1	18	14 22 27.20	+22 15 57.5	17.01 ± 0.06[a]	15.67 ± 0.06[a]	0.047 ± 0.019	-0.054 ± 0.020	19	—	L6.5	42 ± 14	14 ± 6	UBL
GD 165B	2	14 24 39.09	+09 17 10.4	15.69 ± 0.08	14.17 ± 0.10	-0.2182 ± —	-0.1260 ± —	46	L4	L3	31.5 ± 2.5[p]	37.7 ± 3.0	VLMC
LSR 1425+7102	110	14 25 05.03	+71 02 09.6	14.83 ± 0.04	14.34 ± 0.096	-0.62 ± —	-0.17 ± —	47	sdM8	—	65 ± —	197 ± —	—
DENIS-P J142527.97-365023.4	44	14 25 27.98	-36 50 22.9	13.75 ± 0.03	11.81 ± 0.03	-0.268 ± 0.015	-0.473 ± 0.019	19	—	L5	9 ± 1	24 ± 2	—
2MASS J14263161+1557012	33	14 26 31.61	+15 57 01.2	12.91 ± 0.02	11.73 ± 0.02	0.108 ± 0.019	-0.056 ± 0.019	29	M9	—	26 ± 5[cc]	15 ± 4	CB
2MASS J14283132+5923354	74	14 28 31.32	+59 23 35.4	14.78 ± 0.04	13.27 ± 0.03	-0.25 ± 0.17	-0.09 ± 0.15	36	L4	—	22 ± 2	28 ± 18	—
2MASS J14284323+3310391	57	14 28 43.23	+33 10 39.1	11.99 ± 0.02	10.74 ± 0.02	-0.3457 ± 0.0002	-0.7079 ± 0.0004	33	M9	—	11.0 ± 0.2[k]	41.2 ± 0.6	—
IRAC J142950.8+333011	95	14 29 50.80	+33 30 11.0	< 16.88	< 16.99	-0.003 ± —	-0.100 ± —	38	T5	T4.5	32 ± 13	15 ± 8	—
2MASSI J1430435+291540	105	14 30 43.58	+29 15 40.5	14.27 ± 0.03	12.77 ± 0.03	-0.185 ± 0.020	0.142 ± 0.016	10	L2	L0.5	29 ± 2[hh]	33 ± 3	CB
SDSS J143055.90+001352.1	40	14 30 55.89	+00 13 52.3	16.29 ± 0.11	14.98 ± 0.13	0.058 ± 0.024	-0.036 ± 0.012	10	L0	—	82 ± 5	26 ± 9	—
SDSS J143211.74-005900.8	54	14 32 11.75	-00 59 00.6	17.12 ± 0.10[c]	15.49 ± 0.10[c]	-0.009 ± 0.020	-0.032 ± 0.017	10	—	L4.5	58 ± 6	9 ± 5	—
2MASS J14345819-2335572	15	14 34 58.19	-23 35 57.2	12.93 ± 0.02	11.87 ± 0.03	-0.306 ± 0.030	0.051 ± 0.005	11	M7	—	27 ± 3	40 ± 6	—
SDSS J143517.20-004612.9	40	14 35 17.20	-00 46 13.0	16.48 ± 0.10	15.32 ± 0.18	0.022 ± 0.009	0.010 ± 0.006	44	L0	—	102 ± 74[q]	12 ± 10	—
SDSS J143535.72-004347.0	40	14 35 35.72	-00 43 47.1	16.53 ± 0.06[c]	15.15 ± 0.06[c]	0.022 ± 0.005	-0.105 ± 0.009	44	L3	L2.5	62 ± 26[q]	32 ± 13	—
2MASS J14360977+2900350	19	14 36 09.77	+29 00 35.0	13.30 ± 0.02	12.17 ± 0.02	-0.098 ± 0.018	0.068 ± 0.021	19	M8.5	—	25 ± 4	14 ± 3	—
2MASS J14380829+6408363	19	14 38 08.29	+64 08 36.3	12.99 ± 0.02	11.65 ± 0.02	0.64 ± 0.06	-0.20 ± 0.04	36	M9.5	—	18 ± 1	38 ± 6	—
2MASS J14384542+5559134	19	14 38 45.42	+55 59 13.4	13.09 ± 0.02	12.03 ± 0.02	-0.062 ± 0.015	-0.059 ± 0.027	19	M7	—	30 ± 7	12 ± 4	—
2MASSW J1438549-130910	47	14 38 54.98	-13 09 10.3	15.49 ± 0.06	13.86 ± 0.05	0.161 ± 0.022	-0.017 ± 0.016	10	L3	—	37 ± 7	28 ± 6	—
LHS377	110	14 39 00.31	+18 39 38.8	13.19 ± 0.03	12.48 ± 0.03	-0.03 ± —	-1.22 ± —	47	sdM7	—	35 ± —	208 ± —	—
2MASSW J1439284+192915	46	14 39 28.36	+19 29 14.9	12.76 ± 0.02	11.55 ± 0.02	-1.2298 ± 0.0007	0.407 ± 0.002	15	L1	—	14.4 ± 0.1[h]	88.2 ± 0.6	—
SDSS J143933.44+031759.2	40	14 39 33.43	+03 17 59.1	15.99 ± 0.10	14.81 ± 0.13	-0.006 ± 0.021	0.019 ± 0.016	10	L1	—	63 ± 4	6 ± 5	—
2MASSW J1439409+182637	46	14 39 40.92	+18 26 36.9	16.22 ± 0.10	14.54 ± 0.10	-0.013 ± 0.018	0.001 ± 0.025	10	L1	—	70 ± 5	4 ± 6	—
SDSSp J144001.82+002145.8	30	14 40 01.80	+00 21 45.7	15.95 ± 0.08	14.60 ± 0.09	-0.074 ± 0.018	0.037 ± 0.018	10	L1	—	62 ± 4	24 ± 5	—
SDSS J144016.20+002638.9	40	14 40 16.22	+00 26 39.0	16.05 ± 0.06[c]	14.67 ± 0.06[c]	-0.006 ± 0.021	0.004 ± 0.021	19	L3	L1	48 ± 4	2 ± 5	—
2MASS J14402293+1339230	20	14 40 22.93	+13 39 23.0	12.40 ± 0.02	11.34 ± 0.02	-0.146 ± 0.010	-0.340 ± 0.010	28	M8	—	18 ± 1	28 ± 2	—
2MASS J14410457+2719323	20	14 41 04.57	+27 19 32.3	12.99 ± 0.02	11.98 ± 0.02	0.089 ± 0.030	-0.053 ± 0.034	19	M7	—	29 ± 7	14 ± 5	—
SDSS J144128.52+504600.4	18	14 41 28.46	+50 46 00.5	16.98 ± 0.06[a]	15.21 ± 0.06[a]	0.077 ± 0.013	-0.109 ± 0.021	19	—	L3	73 ± 13	46 ± 11	—
DENIS-P J1441-0945, G 124-62B	65	14 41 37.16	-09 45 59.0	14.02 ± 0.03	12.66 ± 0.03	-0.198 ± 0.003	-0.016 ± 0.004	12	L0.5	—	27.5 ± 2.7[f]	25.9 ± 2.6	CB
G 239-25 B	38	14 42 21.75	+66 03 19.8	11.51 ± 0.03	10.33 ± 0.07	-0.311 ± 0.011	-0.059 ± 0.012	34	—	L0	9.9 ± 1.3[l]	14.8 ± 2.0	VLMC
SSSPM 1444-2019	110	14 44 20.67	-20 19 22.3	12.50 ± 0.03	11.91 ± 0.03	-2.919 ± 0.009	-1.950 ± 0.005	47	d/sdM9	—	20 ± —	333 ± —	—
SDSSp J144600.60+002452.0	32	14 46 00.61	+00 24 51.9	15.89 ± 0.08	13.94 ± 0.05	0.180 ± 0.007	-0.066 ± 0.004	44	L6	L5	22.0 ± 1.6[q]	19.9 ± 1.6	—
2MASS J14480337+1554149	19	14 48 03.37	+15 54 14.9	12.48 ± 0.02	11.48 ± 0.02	-0.536 ± 0.019	0.118 ± 0.019	29	M7	—	22 ± 3	58 ± 7	—
2MASSW J1448256+103159	105	14 48 25.63	+10 31 59.0	14.56 ± 0.03	12.68 ± 0.03	0.262 ± 0.022	-0.120 ± 0.022	19	—	L3.5	22 ± 2	30 ± 4	—
2MASSW J1449378+235537	47	14 49 37.84	+23 55 37.8	15.82 ± 0.08	14.31 ± 0.09	0.050 ± 0.013	0.027 ± 0.024	10	L0	—	64 ± 4[y]	17 ± 5	CB
Gl 564B, HD 130948B	79	14 50 16.00	+23 54 41.8	< 13.90	< 12.30	0.1447 ± 0.0008	0.0324 ± 0.0007	34	—	L4	17.9 ± 0.3[l]	12.6 ± 0.2	CB
Gl 564C, HD 130948C	79	14 50 16.00	+23 54 41.8	< 14.20	< 12.60	0.1447 ± 0.0008	0.0324 ± 0.0007	34	—	L4	17.9 ± 0.3[l]	12.6 ± 0.2	CB
2MASS J14532303+1543081	20	14 53 23.03	+15 43 08.1	13.26 ± 0.02	12.21 ± 0.03	-0.011 ± 0.018	0.028 ± 0.018	19	M7.5	—	28 ± 6	4 ± 3	—
DENIS-P J1454078-660447	75	14 54 07.97	-66 04 47.6	13.06 ± 0.02	11.72 ± 0.03	0.525 ± 0.004	-0.376 ± 0.004	35	L3.5	—	11 ± 2	33 ± 6	—
2MASS J14560135-2747374	19	14 56 01.35	-27 47 37.4	13.25 ± 0.03	12.19 ± 0.02	-0.244 ± 0.008	-0.784 ± 0.027	16	M9	—	23 ± 1	89 ± 7	—
2MASS J14563831-2809473	19	14 56 38.31	-28 09 47.3	9.97 ± 0.03	8.93 ± 0.03	-0.485 ± 0.004	-0.846 ± 0.003	13	M7	—	6.9 ± 0.2[g]	31.8 ± 0.7	—
Gliese 570D	8	14 57 14.96	-21 21 47.7	15.32 ± 0.05	15.24 ± 0.16	1.034 ± 0.002	-1.726 ± 0.001	34	T7	T7.5	5.9 ± 0.1[l]	56.4 ± 0.6	VLMC
2MASS J14573965+4517167	33	14 57 39.65	+45 17 16.7	13.12 ± 0.02	11.93 ± 0.02	-0.191 ± 0.019	0.100 ± 0.019	29	M9	—	22 ± 1	22 ± 2	—
2MASS J14582453+2839580	74	14 58 24.53	+28 39 58.0	13.08 ± 0.02	11.85 ± 0.02	-0.109 ± 0.024	-0.432 ± 0.028	19	M8	—	24 ± 4	51 ± 9	—
2MASS J15004572+4219448	74	15 00 45.72	+42 19 44.8	13.78 ± 0.03	12.65 ± 0.02	0.136 ± 0.011	-0.065 ± 0.015	19	M9	—	29 ± 4	21 ± 3	—

Table 3—Continued

Source Name (1)	Ref. (2)	RA (J2000) (3)	DEC (J2000) (4)	2MASS J (mag) (5)	2MASS K_s (mag) (6)	$\mu_\alpha cos(\delta)$ ($''$/yr) (7)	μ_δ ($''$/yr) (8)	μ Ref. (9)	SpT (opt) (10)	SpT (IR) (11)	Distance (pc) (13)	V_{tan} (km s^{-1}) (14)	Note[r] (15)
2MASS J15010818+2250020	102	15 01 08.18	+22 50 02.0	11.87 ± 0.02	10.71 ± 0.02	-0.0246 ± 0.0003	-0.0579 ± 0.0004	15	M9	—	10.6 ± 0.1[h]	3.2 ± 0.0	—
SDSS J150240.80+613815.5	40	15 02 40.82	+61 38 15.8	16.35 ± 0.12	15.39 ± 0.21	-0.098 ± 0.010	0.036 ± 0.022	19	L1	—	74 ± 10	37 ± 6	—
2MASS J15031961+2525196	11	15 03 19.61	+25 25 19.6	13.82 ± 0.06[c]	14.11 ± 0.06[c]	0.009 ± 0.017	0.021 ± 0.018	10	T6	T5	7 ± 1	1 ± 1	—
2MASS J15041621-2355564	57	15 04 16.21	-23 55 56.4	12.01 ± 0.03	11.03 ± 0.03	-0.305 ± 0.029	-0.119 ± 0.011	17	M7.5	—	16 ± 2	25 ± 3	—
2MASSW J1506544+132106	33	15 06 54.41	+13 21 06.0	13.37 ± 0.02	11.74 ± 0.02	-1.087 ± 0.013	0.014 ± 0.011	10	L3	—	14 ± 1	71 ± 6	—
2MASS J15072779-2000431	19	15 07 27.79	-20 00 43.1	11.71 ± 0.02	10.66 ± 0.02	0.104 ± 0.003	-0.071 ± 0.002	2	M7.5	—	22.8 ± —[e]	13.6 ± —	—
2MASSW J1507476-162738	82	15 07 47.69	-16 27 38.6	12.83 ± 0.03	11.31 ± 0.03	-0.161 ± 0.002	-0.8885 ± 0.0006	15	L5	L5.5	7.33 ± 0.03[h]	31.4 ± 0.1	—
2MASS J15101685-0241078	36	15 10 16.85	-02 41 07.8	12.61 ± 0.02	11.35 ± 0.02	-0.405 ± 0.012	0.024 ± 0.006	41	M9	—	16.6 ± 1.3[o]	32.0 ± 2.7	—
2MASS J15104761-2818234	36	15 10 47.61	-28 18 23.4	14.01 ± 0.03	12.79 ± 0.03	0.1 ± 0.2	0.1 ± 0.2	25	M9	—	32 ± 2	14 ± 15	—
2MASS J15104786-2818174	36	15 10 47.86	-28 18 17.4	12.84 ± 0.03	11.69 ± 0.03	-0.10 ± 0.18	0.00 ± 0.30	36	M9	—	19 ± 1	9 ± 16	—
SDSS J151114.66+060742.9	18	15 11 14.66	+06 07 43.1	16.01 ± 0.06[a]	14.51 ± 0.06[a]	-0.252 ± 0.021	-0.256 ± 0.021	19	—	T0	18 ± 3	30 ± 5	—
2MASS J15123329-1032414	74	15 12 33.29	-10 32 41.4	13.16 ± 0.03	12.02 ± 0.03	-0.040 ± 0.020	-0.037 ± 0.019	9	M8	—	25 ± 2	6 ± 2	—
2MASS J15124058+3403501	21	15 12 40.58	+34 03 50.1	15.04 ± 0.04	13.43 ± 0.04	0.228 ± 0.010	-0.010 ± 0.012	19	—	L1	41 ± 11	44 ± 12	—
2MASSW J1515008+484742	105	15 15 00.83	+48 47 41.6	14.11 ± 0.03	12.50 ± 0.02	-0.950 ± 0.021	1.471 ± 0.021	10	L6	L6	11 ± 1	89 ± 8	—
SDSS J151506.11+443648.3	18	15 15 06.07	+44 36 48.3	16.69 ± 0.06[a]	14.88 ± 0.06[a]	0.075 ± 0.019	-0.020 ± 0.027	19	—	L7.5	25 ± 11	9 ± 5	—
SDSS J151603.03+025928.9	54	15 16 03.03	+02 59 29.2	17.06 ± 0.10[c]	15.34 ± 0.10[c]	-0.048 ± 0.022	-0.174 ± 0.022	19	—	T0	26 ± 1	22 ± 3	—
SDSS J151643.01+305344.4	18	15 16 43.06	+30 53 44.3	16.97 ± 0.06[a]	15.10 ± 0.06[a]	-0.132 ± 0.021	0.004 ± 0.024	19	—	T0.5	23 ± 3	14 ± 3	—
2MASS J15200224-4422419A	45	15 20 02.24	-44 22 41.9	13.55 ± 0.04	12.27 ± 0.03	-0.63 ± 0.03	-0.37 ± 0.02	6	—	L1.5	19 ± 1[v]	66 ± 5	CB
2MASS J15200224-4422419B	45	15 20 02.24	-44 22 41.9	14.70 ± 0.07	13.22 ± 0.04	-0.63 ± 0.03	-0.37 ± 0.02	6	—	L4.5	19 ± 2[v]	66 ± 7	CB
SDSS J152039.82+354619.8	18	15 20 39.74	+35 46 21.0	15.65 ± 0.06[a]	14.01 ± 0.06[a]	0.279 ± 0.023	-0.386 ± 0.028	19	—	T0	14 ± 2	32 ± 4	—
2MASS J15210103+5053230	19	15 21 01.03	+50 53 23.0	12.01 ± 0.02	10.92 ± 0.02	0.07 ± 0.06	-0.21 ± 0.08	36	M7.5	—	16 ± 2	17 ± 7	—
SDSS J152103.24+013142.7	54	15 21 03.27	+01 31 42.6	16.27 ± 0.06[c]	15.43 ± 0.06[c]	-0.212 ± 0.019	0.084 ± 0.017	10	—	T2	24 ± 2	26 ± 3	—
2MASS J15230657-2347526	45	15 23 06.57	-23 47 52.6	14.20 ± 0.03	12.90 ± 0.03	0.159 ± 0.013	0.308 ± 0.012	22	—	L2.5	22 ± 2	36 ± 3	—
Gl 584C	47	15 23 22.63	+30 14 56.2	16.06 ± 0.10	14.35 ± 0.07	0.1258 ± 0.0006	-0.1765 ± 0.0008	34	L8	L8	18.6 ± 0.4[l]	19.1 ± 1.2	VLMC
SDSS J152531.32+581053.1	54	15 25 31.32	+58 10 52.5	17.04 ± 0.10[c]	15.46 ± 0.10[c]	0.064 ± 0.015	0.044 ± 0.028	19	—	L6.5	39 ± 13	14 ± 6	—
2MASSI J1526140+204341	47	15 26 14.05	+20 43 41.4	15.59 ± 0.06	13.92 ± 0.05	-0.207 ± 0.018	-0.362 ± 0.019	19	L7	—	18 ± 3	35 ± 6	—
ULAS J153108.89+060111.1	45	15 31 08.88	+06 01 11.2	16.17 ± 0.19[b]	14.40 ± 0.21[b]	0.028 ± 0.025	-0.048 ± 0.025	19	L0	—	77 ± 9	20 ± 10	—
2MASS J15311344+1641282	21	15 31 13.45	+16 41 28.2	15.58 ± 0.06	13.80 ± 0.05	-0.076 ± 0.025	0.040 ± 0.026	19	—	L1	52 ± 14	21 ± 8	—
SDSS J153417.05+161546.1AB	18	15 34 17.11	+16 15 46.3	16.86 ± 0.06[a]	15.99 ± 0.06[a]	-0.066 ± 0.020	-0.052 ± 0.021	19	—	T3.5	36 ± 5[aa]	14 ± 4	CB
2MASSI J1534498-295227	10	15 34 49.84	-29 52 27.4	14.88 ± 0.06[c]	15.03 ± 0.06[c]	0.0959 ± 0.0008	-0.251 ± 0.002	43	T6	T5.5	13.6 ± 0.2[o]	17.3 ± 0.4	CB
SDSS J153453.33+121949.2	18	15 34 53.25	+12 19 49.5	15.40 ± 0.06[a]	13.73 ± 0.06[a]	0.177 ± 0.020	-0.040 ± 0.021	19	—	L4	29 ± 17	25 ± 15	—
2MASS J15345704-1418486	36	15 34 57.04	-14 18 48.6	11.38 ± 0.02	10.31 ± 0.02	-0.915 ± 0.003	-0.311 ± 0.001	2	M7	—	11.1 ± —[e]	50.8 ± —	—
2MASS J15382417-1953116	74	15 38 24.17	-19 53 11.6	15.93 ± 0.06	14.00 ± 0.05	0.032 ± 0.019	-0.061 ± 0.020	19	L6	—	21 ± 8	7 ± 3	—
2MASS J15392137+6502364	21	15 39 21.37	+65 02 36.4	14.60 ± 0.04	13.20 ± 0.04	-0.038 ± 0.011	0.038 ± 0.025	19	—	L1	33 ± 9	8 ± 4	—
DENIS-P J153941.96-052042.4	44	15 39 41.89	-05 20 42.8	13.92 ± 0.03	12.58 ± 0.03	0.599 ± 0.014	0.117 ± 0.015	10	L4	L2	15 ± 1	43 ± 4	—
2MASS J15394442+7437273	74	15 39 44.42	+74 37 27.3	12.93 ± 0.02	11.73 ± 0.02	-0.04 ± 0.08	0.06 ± 0.09	36	M9	—	20 ± 1	6 ± 9	—
SDSS J154009.36+374230.3	18	15 40 09.42	+37 42 31.6	16.49 ± 0.06[a]	14.65 ± 0.06[a]	-0.205 ± 0.016	-0.382 ± 0.020	19	—	L9	20 ± 5	41 ± 10	—
SDSS J154508.93+355527.3	18	15 45 09.01	+35 55 27.1	17.12 ± 0.06[a]	15.31 ± 0.06[a]	-0.183 ± 0.016	0.063 ± 0.020	19	—	L7.5	31 ± 4	28 ± 5	—
2MASS J15460540+3749458	33	15 46 05.40	+37 49 45.8	12.44 ± 0.02	11.41 ± 0.02	-0.020 ± 0.019	-0.120 ± 0.019	29	M7.5	—	20 ± 2	11 ± 2	—
2MASSI J1546291-332511	10	15 46 27.18	-33 25 11.1	15.63 ± 0.05	15.49 ± 0.18	0.121 ± 0.002	0.190 ± 0.002	43	—	T5.5	11.4 ± 0.2[o]	12.1 ± 0.4	—
SDSS J154727.23+033636.3	40	15 47 27.23	+03 36 36.1	16.08 ± 0.07	14.27 ± 0.07	-0.063 ± 0.013	0.052 ± 0.017	10	L2	—	57 ± 4	22 ± 4	—
2MASS J15474719-2423493	83	15 47 47.19	-24 23 49.3	13.97 ± 0.03	12.74 ± 0.03	-0.133 ± 0.015	-0.122 ± 0.016	10	L0	—	28 ± 3	24 ± 4	—
SDSS J154849.02+172235.4	18	15 48 49.12	+17 22 35.9	16.22 ± 0.06[a]	14.53 ± 0.06[a]	-0.277 ± 0.019	-0.109 ± 0.019	19	—	L5	33 ± 6	46 ± 9	—
2MASS J15485834-1636018	45	15 48 58.34	-16 36 01.8	13.89 ± 0.03	12.64 ± 0.03	-0.210 ± 0.016	-0.107 ± 0.017	19	—	L2	21 ± 3	23 ± 4	—
GQ Lup B	73	15 49 12.09	-35 39 03.9	—[d]	13.10 ± 0.10[d]	-0.027 ± 0.003	-0.014 ± 0.001	39	—	L1.5	140 ± 25	20 ± 4	YC-VLMC
2MASS J15500845+1455180	20	15 50 08.45	+14 55 18.0	14.78 ± 0.04	13.26 ± 0.04	0.105 ± 0.019	-0.127 ± 0.013	10	L2	—	31 ± 5	24 ± 4	—
2MASS J15510662+6457047	33	15 51 06.62	+64 57 04.7	12.89 ± 0.02	11.72 ± 0.02	-0.220 ± 0.019	0.010 ± 0.019	29	M8	—	22 ± 2	23 ± 3	—
2MASS J15515237+0941148	74	15 51 52.37	+09 41 14.8	16.32 ± 0.11	14.31 ± 0.06	-0.070 ± 0.022	-0.050 ± 0.022	19	L2	—	64 ± 10	26 ± 8	LG

Table 3—Continued

Source Name (1)	Ref. (2)	RA (J2000) (3)	DEC (J2000) (4)	2MASS J (mag) (5)	2MASS K_s (mag) (6)	$\mu_\alpha cos(\delta)$ (″/yr) (7)	μ_δ (″/yr) (8)	μ Ref. (9)	SpT (opt) (10)	SpT (IR) (11)	Distance (pc) (13)	V_{tan} (km s^{-1}) (14)	Note[r] (15)	Epo (16
2MASSW J1552591+294849	105	15 52 59.06	+29 48 48.5	13.48 ± 0.03	12.02 ± 0.03	-0.157 ± 0.020	-0.051 ± 0.020	10	—	L1	20 ± 1	16 ± 2	—	200
2MASSI J1553022+153236	10	15 53 02.28	+15 32 36.9	15.66 ± 0.06[c]	15.82 ± 0.06[c]	-0.402 ± 0.017	0.171 ± 0.016	10	—	T7	12 ± 2[u]	25 ± 4	CB	199
2MASS J15531993+1400337	33	15 53 19.93	+14 00 33.7	13.05 ± 0.02	11.82 ± 0.02	-0.659 ± 0.019	0.072 ± 0.019	29	M9	—	20 ± 1	64 ± 5	—	199
2MASSW J1553214+210907	46	15 53 21.42	+21 09 07.1	16.70 ± 0.16	14.68 ± 0.11	-0.045 ± 0.015	0.114 ± 0.016	19	L5.5	—	32 ± 6	19 ± 4	—	199
2MASSW J1555157-095605	36	15 55 15.73	-09 56 05.5	12.56 ± 0.02	11.44 ± 0.02	0.950 ± 0.015	-0.767 ± 0.015	19	L1	—	13 ± 1	75 ± 5	—	199
SDSS J155526.15+001720.6	40	15 55 26.14	+00 17 20.4	14.95 ± 0.04	13.82 ± 0.06	-0.234 ± 0.018	-0.041 ± 0.018	10	L0	—	44 ± 3	50 ± 5	—	200
2MASSI J1600054+170832	47	16 00 05.48	+17 08 32.8	16.05 ± 0.09	14.68 ± 0.11	-0.009 ± 0.015	0.015 ± 0.021	10	L1.5	—	61 ± 4[y]	5 ± 6	CB	199
2MASS J16062665+6837268	21	16 06 26.65	+68 37 26.8	14.91 ± 0.04	13.43 ± 0.04	-0.083 ± 0.008	0.043 ± 0.023	19	—	L2	33 ± 10	15 ± 5	—	199
2MASS J16073123-0442091	36	16 07 31.23	-04 42 09.1	11.90 ± 0.02	10.72 ± 0.03	0.028 ± 0.002	-0.461 ± 0.029	17	M8	—	14 ± 1	31 ± 3	—	199
LSR 1610-0040	110	16 10 29.00	-00 40 53.0	12.91 ± 0.02	12.02 ± 0.03	-1.25 ± 0.06	-1.18 ± 0.06	47	d/sdM7	—	16 ± —	111 ± —	—	199
SDSS J161420.50+004643.6	40	16 14 20.48	+00 46 43.4	16.23 ± 0.10	14.85 ± 0.11	-0.057 ± 0.021	-0.031 ± 0.021	10	L2	—	61 ± 5	19 ± 6	—	200
2MASS J16150413+1340079	63	16 15 04.13	+13 40 07.9	16.35 ± 0.09	< 15.86	0.315 ± 0.033	-0.362 ± 0.038	32	—	T6	13 ± 2	30 ± 5	—	199
2MASS J16154245+0546400	74	16 15 42.45	+05 46 40.0	12.88 ± 0.02	11.74 ± 0.02	0.11 ± 0.06	-0.12 ± 0.07	36	M9	—	19 ± 1	15 ± 6	—	200
2MASSW J1615441+355900	47	16 15 44.16	+35 59 00.5	14.54 ± 0.03	12.94 ± 0.03	-0.017 ± 0.012	-0.512 ± 0.015	10	L3	—	24 ± 2	58 ± 5	—	199
SDSS J161626.46+221859.2	54	16 16 26.49	+22 18 59.1	17.66 ± 0.06[c]	15.69 ± 0.06[c]	-0.073 ± 0.018	0.021 ± 0.019	19	—	L5	56 ± 38	20 ± 15	—	199
SDSS J161731.65+401859.7	18	16 17 31.68	+40 19 00.3	16.96 ± 0.06[a]	14.88 ± 0.06[a]	-0.038 ± 0.014	-0.132 ± 0.019	19	—	L4	59 ± 12	39 ± 9	—	199
2MASS J16184503-1321297	49	16 18 45.03	-13 21 29.7	14.25 ± 0.02	12.92 ± 0.03	-0.101 ± 0.015	-0.062 ± 0.015	10	L0	—	32 ± 4	18 ± 3	—	199
SDSS J161928.31+005011.9	40	16 19 28.30	+00 50 11.8	14.39 ± 0.04	13.19 ± 0.04	0.074 ± 0.016	-0.088 ± 0.017	10	L2	—	26 ± 2	14 ± 2	—	200
GJ 618.1B	104	16 20 26.14	-04 16 31.5	15.28 ± 0.05	13.60 ± 0.04	-0.417 ± 0.002	-0.023 ± 0.002	34	L2.5	—	30.3 ± 2.4[l]	60.1 ± 4.8	VLMC	200
SDSS J162051.17+323732.1	18	16 20 51.16	+32 37 32.2	17.31 ± 0.08[a]	15.43 ± 0.06[a]	0.015 ± 0.011	-0.033 ± 0.014	19	—	L6	41 ± 7	7 ± 3	—	199
SDSS J162255.27+115924.1	18	16 22 55.33	+11 59 23.8	17.03 ± 0.10[a]	15.49 ± 0.06[a]	-0.128 ± 0.025	-0.012 ± 0.026	19	—	L6	43 ± 23	26 ± 15	—	199
SDSSp J162414.37+002915.6	96	16 24 14.36	+00 29 15.8	15.49 ± 0.05	< 15.52	-0.373 ± 0.002	-0.009 ± 0.002	43	—	T6	11.0 ± 0.1[o]	19.5 ± 0.3	—	199
2MASS 1626+3925	110	16 26 20.34	+39 25 19.0	14.43 ± 0.04	14.44 ± 0.08	-1.35 ± 0.10	0.24 ± 0.10	47	sdL4	—	20 ± —	120 ± —	—	199
2MASS J16272794+8105075	33	16 27 27.94	+81 05 07.5	13.03 ± 0.02	11.88 ± 0.02	-0.209 ± 0.019	0.338 ± 0.019	29	M9	—	21 ± 1	39 ± 3	—	199
SDSS J162838.77+230821.1	18	16 28 38.55	+23 08 24.1	16.57 ± 0.06[a]	16.59 ± 0.06[a]	0.497 ± 0.020	-0.461 ± 0.021	19	—	T7	14 ± 4	45 ± 12	—	199
SDSS J163022.92+081822.0	18	16 30 22.95	+08 18 22.1	16.46 ± 0.06[a]	16.30 ± 0.06[a]	-0.083 ± 0.018	-0.084 ± 0.019	19	—	T5.5	18 ± 2	10 ± 2	—	200
SDSS J163030.53+434404.0	54	16 30 30.54	+43 44 03.2	16.62 ± 0.06[c]	14.72 ± 0.06[c]	-0.138 ± 0.020	0.052 ± 0.028	19	—	L7	25 ± 12	18 ± 9	—	200
2MASS J16304139+0938446	83	16 30 41.39	+09 38 44.6	14.87 ± 0.03	13.30 ± 0.04	-0.064 ± 0.015	-0.056 ± 0.014	10	L0	—	43 ± 5	17 ± 4	—	200
SDSS J163050.01+005101.3	40	16 30 49.99	+00 51 01.0	16.00 ± 0.08	14.62 ± 0.08	-0.080 ± 0.015	-0.139 ± 0.018	10	L1	—	63 ± 4	48 ± 6	—	200
2MASSW J1632291+190441	46	16 32 29.11	+19 04 40.7	15.87 ± 0.07	14.00 ± 0.05	0.293 ± 0.001	-0.054 ± 0.001	15	L8	L8	15.2 ± 0.5[h]	21.5 ± 0.7	—	199
SDSS J163359.23-064056.5	18	16 33 59.33	-06 40 55.2	16.14 ± 0.06[a]	14.57 ± 0.06[a]	-0.232 ± 0.015	-0.195 ± 0.015	19	—	L6	28 ± 3	40 ± 4	—	199
2MASS J16351919+4223053	33	16 35 19.19	+42 23 05.3	12.88 ± 0.03	11.79 ± 0.02	-0.073 ± 0.019	-0.010 ± 0.019	29	M8	—	22 ± 2	8 ± 2	—	199
2MASS 1640+1231	110	16 40 31.97	+12 31 06.9	15.95 ± 0.08	< 15.499	-0.75 ± 0.06	-0.33 ± 0.06	47	d/sdM9	—	75 ± —	292 ± —	—	199
2MASS J16452207+3004071	20	16 45 22.07	+30 04 07.1	15.19 ± 0.04	13.59 ± 0.04	-0.065 ± 0.019	-0.065 ± 0.022	19	L3	—	32 ± 6	14 ± 4	—	199
2MASSW J1645221-131951	36	16 45 22.11	-13 19 51.6	12.45 ± 0.03	11.15 ± 0.03	-0.364 ± 0.018	-0.804 ± 0.016	10	L1.5	—	12 ± 1	48 ± 4	—	199
2MASS J16490419+0444571	74	16 49 04.19	+04 44 57.1	12.96 ± 0.03	11.88 ± 0.02	0.054 ± 0.023	0.083 ± 0.023	19	M8	—	23 ± 4	11 ± 3	—	200
SDSS J165329.69+623136.5	40	16 53 29.70	+62 31 36.4	15.09 ± 0.05	< 14.07	0.031 ± 0.016	-0.024 ± 0.035	19	L3	—	31 ± 5	6 ± 4	—	200
2MASSI J1656188+283506	47	16 56 18.85	+28 35 05.6	< 16.95	15.22 ± 0.15	0.011 ± 0.027	-0.027 ± 0.031	19	L4.5	—	54 ± 11	7 ± 8	—	200
2MASS J16573454+1054233	83	16 57 34.54	+10 54 23.3	14.15 ± 0.04	12.80 ± 0.03	-0.084 ± 0.017	-0.061 ± 0.021	10	L2	—	23 ± 2	11 ± 2	—	200
2MASSW J1658037+702701	33	16 58 03.80	+70 27 01.5	13.29 ± 0.02	11.92 ± 0.02	-0.1468 ± 0.0007	-0.3133 ± 0.0009	15	L1	—	18.6 ± 0.2[h]	30.4 ± 0.4	—	200
DENIS-P J170548.38-051645.7	44	17 05 48.34	-05 16 46.2	13.31 ± 0.03	12.03 ± 0.02	0.129 ± 0.014	-0.103 ± 0.015	10	—	L4	11 ± 1	9 ± 1	—	199
2MASS J17071830+6439331	57	17 07 18.30	+64 39 33.1	12.54 ± 0.02	11.38 ± 0.02	0.226 ± 0.019	-0.091 ± 0.019	29	M9	—	16 ± 1	19 ± 2	—	200
2MASS J17072343-0558249B	67	17 07 23.43	-05 58 24.9	13.96 ± 0.11	12.20 ± 0.08	0.100 ± 0.008	0.003 ± 0.005	22	—	L3	15 ± 1[dd]	7 ± 1	CB	199
2MASSI J1707333+430130	19	17 07 33.34	+43 01 30.4	13.97 ± 0.03	12.62 ± 0.03	-0.200 ± 0.022	-0.022 ± 0.014	10	L0.5	—	26 ± 2	25 ± 3	—	199
2MASS J17111353+2326333	20	17 11 13.53	+23 26 33.3	14.50 ± 0.03	13.06 ± 0.03	-0.053 ± 0.011	-0.036 ± 0.016	10	L0	—	36 ± 4	11 ± 3	—	199
2MASSI J1711457+223204	47	17 11 45.73	+22 32 04.4	17.09 ± 0.18	14.73 ± 0.10	0.031 ± 0.007	-0.005 ± 0.004	44	L6.5	—	30.2 ± 4.5[q]	4.5 ± 1.2	—	199
SDSS J171147.17+233130.5	18	17 11 47.16	+23 31 31.0	16.96 ± 0.06[a]	15.29 ± 0.06[a]	0.010 ± 0.017	-0.085 ± 0.018	19	—	L3.5	66 ± 37	27 ± 16	—	199
SDSS J171714.10+652622.2	40	17 17 14.08	+65 26 22.1	14.95 ± 0.04	13.18 ± 0.03	0.159 ± 0.007	-0.092 ± 0.016	19	L4	—	24 ± 5	21 ± 4	—	199

Table 3—Continued

Source Name (1)	Ref. (2)	RA (J2000) (3)	DEC (J2000) (4)	2MASS J (mag) (5)	2MASS K_s (mag) (6)	$\mu_\alpha cos(\delta)$ (″/yr) (7)	μ_δ (″/yr) (8)	μ Ref. (9)	SpT (opt) (10)	SpT (IR) (11)	Distance (pc) (13)	V_{tan} (km s^{-1}) (14)	Note[r] (15)	Epoc (16
2MASSI J1721039+334415	19	17 21 03.90	+33 44 16.0	13.63 ± 0.02	12.49 ± 0.02	-1.854 ± 0.017	0.602 ± 0.017	10	L3	—	16 ± 1	144 ± 13	UBL	1998
SDSS J172244.32+632946.8	40	17 22 44.32	+63 29 47.0	15.37 ± 0.05	14.08 ± 0.07	0.013 ± 0.012	-0.038 ± 0.027	19	L0	—	53 ± 6	10 ± 7	—	1999
2MASSI J1726000+153819	47	17 26 00.07	+15 38 19.0	15.67 ± 0.07	13.66 ± 0.05	-0.031 ± 0.013	-0.048 ± 0.014	10	L2	—	47 ± 4	13 ± 3	—	1997
2MASSW J1728114+394859	47	17 28 11.50	+39 48 59.3	15.99 ± 0.08	13.91 ± 0.05	0.037 ± 0.006	-0.026 ± 0.005	44	L7	—	24.1 ± 1.9[q]	5.1 ± 0.9	CB	1998
SDSS J172822.19+584509.9	40	17 28 22.17	+58 45 09.5	16.40 ± 0.16	< 15.15	0.024 ± 0.013	0.102 ± 0.012	10	L1	—	76 ± 5	38 ± 5	—	1999
SDSS J173101.41+531047.9	18	17 31 01.40	+53 10 47.6	16.46 ± 0.06[a]	14.81 ± 0.06[a]	0.064 ± 0.011	0.162 ± 0.018	19	—	L6	31 ± 16	26 ± 14	—	1998
2MASS J17312974+2721233	83	17 31 29.74	+27 21 23.3	12.09 ± 0.03	10.91 ± 0.02	-0.082 ± 0.015	-0.240 ± 0.017	10	L0	—	12 ± 1	14 ± 1	—	2000
2MASS J17331893+4633593	33	17 33 18.93	+46 33 59.3	13.24 ± 0.02	11.89 ± 0.02	0.044 ± 0.019	-0.257 ± 0.019	29	M9.5	—	21 ± 1	26 ± 2	—	1998
DENIS-P J1733423-165449	75	17 33 42.27	-16 54 50.0	13.53 ± 0.05	12.35 ± 0.03	0.081 ± 0.011	-0.048 ± 0.014	35	L0.5	—	22 ± 3	10 ± 2	—	1998
2MASS J17351296+2634475	74	17 35 12.96	+26 34 47.5	11.25 ± 0.03	10.16 ± 0.02	0.19 ± 0.08	-0.32 ± 0.09	36	M7.5	—	11 ± 1[z]	19 ± 6	CB	2000
2MASSW J1743415+212707	47	17 43 41.48	+21 27 06.9	15.83 ± 0.09	14.32 ± 0.10	0.159 ± 0.018	0.233 ± 0.019	19	L2.5	—	47 ± 8	63 ± 11	—	1999
DENIS-P J1745346-164053	75	17 45 34.66	-16 40 53.8	13.65 ± 0.03	12.40 ± 0.02	0.116 ± 0.099	-0.111 ± 0.095	35	L1.5	—	20 ± 3	15 ± 13	—	1998
2MASS J17461199+5034036	74	17 46 11.99	+50 34 03.6	15.10 ± 0.06	13.53 ± 0.04	0.258 ± 0.018	0.025 ± 0.028	19	L5	—	21 ± 4	25 ± 5	—	2000
2MASS J17501291+4424043	33	17 50 12.91	+44 24 04.3	12.80 ± 0.02	11.77 ± 0.02	-0.018 ± 0.019	0.151 ± 0.019	29	M7.5	—	31 ± 6[ff]	22 ± 5	CB	1998
SDSS J175024.01+422237.8	54	17 50 23.85	+42 22 37.3	16.33 ± 0.06[c]	15.26 ± 0.06[c]	-0.044 ± 0.016	0.095 ± 0.014	10	—	T2	22 ± 1	11 ± 2	—	1998
2MASS J17502484-0016151	45	17 50 24.84	-00 16 15.1	13.29 ± 0.02	11.85 ± 0.02	-0.440 ± 0.043	0.218 ± 0.041	22	—	L5.5	9 ± 1	20 ± 3	—	1999
SDSSp J175032.96+175903.9	32	17 50 32.93	+17 59 04.2	16.34 ± 0.10	15.48 ± 0.19	0.178 ± 0.007	0.100 ± 0.005	44	—	T3.5	27.6 ± 3.5[q]	26.7 ± 3.5	—	1999
2MASS J17534518-6559559	83	17 53 45.18	-65 59 55.9	14.10 ± 0.03	12.42 ± 0.03	0.01 ± 0.15	-0.36 ± 0.09	36	L4	—	16 ± 3	27 ± 9	—	2000
DENIS-P J1756561-480509	75	17 56 56.20	-48 05 09.6	13.41 ± 0.02	12.19 ± 0.02	0.078 ± 0.008	0.050 ± 0.009	35	L0	—	22 ± 3	10 ± 1	—	2000
2MASS J17571539+7042011	33	17 57 15.39	+70 42 01.1	11.45 ± 0.02	10.40 ± 0.02	0.01 ± 0.04	0.34 ± 0.09	36	M7.5	—	12 ± 1	20 ± 6	—	1999
SDSS J175805.46+463311.9	54	17 58 05.45	+46 33 09.9	16.17 ± 0.06[c]	15.99 ± 0.06[c]	0.026 ± 0.015	0.594 ± 0.016	10	—	T6.5	12 ± 2	34 ± 4	—	1998
2MASSI J1807159+501531	19	18 07 15.93	+50 15 31.6	12.93 ± 0.02	11.60 ± 0.03	0.035 ± 0.019	-0.126 ± 0.014	10	L1.5	L1	14 ± 1	9 ± 1	—	2000
2MASS J18261131+3014201	56	18 26 11.31	+30 14 20.1	11.66 ± 0.02	10.81 ± 0.02	-2.280 ± 0.010	-0.684 ± 0.010	28	M8.5	—	12 ± 1	132 ± 9	—	1998
2MASS J18283572-4849046	13	18 28 35.72	-48 49 04.6	15.18 ± 0.06	15.18 ± 0.14	0.25 ± 0.07	0.21 ± 0.07	5	—	T5.5	11 ± 1	17 ± 4	—	2000
2MASS J18353790+3259545	19	18 35 37.90	+32 59 54.5	10.27 ± 0.02	9.17 ± 0.02	-0.075 ± 0.010	-0.743 ± 0.010	28	M8.5	—	6.2 ± 0.4	22 ± 2	—	1998
2MASSW J1841086+311727	47	18 41 08.61	+31 17 27.9	16.16 ± 0.09	14.22 ± 0.07	0.059 ± 0.003	0.042 ± 0.003	44	L4	—	42.4 ± 3.4[q]	14.6 ± 1.4	—	1998
2MASS J18432213+4040209	84	18 43 22.13	+40 40 20.9	11.31 ± 0.02	10.31 ± 0.02	-0.1187 ± 0.0004	0.5940 ± 0.0004	33	M8	—	14.1 ± 0.2[k]	40.6 ± 0.5	—	1999
SCR 1845-6357B	4	18 45 05.00	-63 57 48.0	13.26 ± 0.02	13.69 ± 0.02	2.592 ± 0.002	0.617 ± 0.003	23	—	T6	3.85 ± 0.02[j]	48.7 ± 0.2	VLMC	2000
2MASS J18450541-6357475	109	18 45 05.41	-63 57 47.5	9.54 ± 0.02	8.51 ± 0.02	2.592 ± 0.002	0.617 ± 0.003	23	M8.5	—	3.85 ± 0.02[j]	48.7 ± 0.2	CB	2000
2MASS J18451889+3853248	74	18 45 18.89	+38 53 24.8	12.21 ± 0.02	11.05 ± 0.02	0.22 ± 0.09	0.34 ± 0.10	36	M8	—	16 ± 1	32 ± 8	—	2000
2MASS J19010601+4718136	13	19 01 06.01	+47 18 13.6	15.86 ± 0.07	15.64 ± 0.29	-0.11 ± 0.02	-0.36 ± 0.02	5	—	T5	15 ± 2	27 ± 4	—	1998
DENIS-P J1909081-193748	75	19 09 08.21	-19 37 47.9	14.52 ± 0.03	12.92 ± 0.00	0.054 ± 0.015	0.148 ± 0.030	35	L1	—	32 ± 4	24 ± 6	—	1999
2MASS J19165762+0509021	57	19 16 57.62	+05 09 02.2	9.91 ± 0.03	8.77 ± 0.02	-0.576 ± 0.013	-1.363 ± 0.015	42	M8	—	6.2 ± 0.1[n]	43.7 ± 1.1	—	1999
2MASS J19285196-4356256	83	19 28 51.96	-43 56 25.6	15.20 ± 0.04	13.46 ± 0.04	0.066 ± 0.012	-0.273 ± 0.016	19	L5	—	20 ± 2	27 ± 3	—	2000
SSSPM 1930-4311	110	19 29 40.99	-43 10 36.9	14.79 ± 0.03	14.09 ± 0.07	-0.019 ± 0.011	-0.865 ± 0.008	47	sdM7	—	73 ± —	301 ± —	—	2000
2MASS J19360187-5502322	83	19 36 01.87	-55 02 32.2	14.49 ± 0.04	13.05 ± 0.03	0.169 ± 0.009	-0.298 ± 0.016	19	L5	—	17 ± 3	27 ± 5	—	1999
2MASS J19561542-1754252	45	19 56 15.42	-17 54 25.2	13.75 ± 0.03	12.65 ± 0.03	-0.157 ± 0.015	0.093 ± 0.015	22	M8	L0	33 ± 3	29 ± 3	—	1999
2MASS J20004841-7523070	74	20 00 48.41	-75 23 07.0	12.73 ± 0.03	11.51 ± 0.03	-0.22 ± 0.06	-0.26 ± 0.06	36	M9	—	18 ± 2	29 ± 7	LG	2000
2MASS J20025073-0521524	20	20 02 50.73	-05 21 52.4	15.32 ± 0.05	13.42 ± 0.04	-0.098 ± 0.013	-0.105 ± 0.014	10	L6	—	16 ± 1	11 ± 1	—	1998
Gl 779B, HR 7672B	60	20 04 06.22	+17 04 11.7	—	< 13.00	-0.3941 ± 0.0006	-0.4064 ± 0.0006	34	—	L4.5	17.7 ± 0.2[l]	47.4 ± 0.6	VLMC	2000
2MASS J20045369-1416231	19	20 04 53.69	-14 16 23.1	13.13 ± 0.02	12.05 ± 0.03	0.534 ± 0.018	0.056 ± 0.017	9	M7.5	—	28 ± 3	70 ± 7	—	1998
2MASS J20140359-2016217	19	20 14 03.59	-20 16 21.7	12.54 ± 0.02	11.45 ± 0.03	0.025 ± 0.011	-0.124 ± 0.012	9	M7.5	—	21 ± 2	12 ± 2	—	1998
2MASS J20192695-2502441	19	20 19 26.95	-25 02 44.1	13.68 ± 0.03	12.44 ± 0.02	-0.130 ± 0.020	-0.090 ± 0.020	9	M8	—	32 ± 3	24 ± 4	—	1998
2MASS J20261584-2943124	20	20 26 15.84	-29 43 12.4	14.80 ± 0.03	13.36 ± 0.03	0.043 ± 0.019	-0.348 ± 0.015	10	L1	—	36 ± 5	60 ± 8	—	1998
SDSS J202820.32+005226.5	40	20 28 20.35	+00 52 26.5	14.30 ± 0.04	12.79 ± 0.03	0.114 ± 0.014	0.007 ± 0.015	10	L3	—	21 ± 2	11 ± 2	—	2000
2MASS J20343769+0827009	83	20 34 37.69	+08 27 00.9	14.46 ± 0.03	13.08 ± 0.03	-0.077 ± 0.015	-0.468 ± 0.015	10	L3	—	23 ± 2	51 ± 5	—	2000
2MASS J20360316+1051295	83	20 36 03.16	+10 51 29.5	13.95 ± 0.03	12.45 ± 0.03	-0.115 ± 0.014	-0.168 ± 0.014	10	L3	—	18 ± 2	17 ± 2	—	2000
LSR 2036+5059	110	20 36 21.61	+51 00 05.3	13.61 ± 0.03	12.94 ± 0.03	1.04 ± —	-0.20 ± —	47	sdM7.5	—	18 ± —	90 ± —	—	2000

Table 3—Continued

Source Name (1)	Ref. (2)	RA (J2000) (3)	DEC (J2000) (4)	2MASS J (mag) (5)	2MASS K_s (mag) (6)	$\mu_\alpha cos(\delta)$ ($''$/yr) (7)	μ_δ ($''$/yr) (8)	μ Ref. (9)	SpT (opt) (10)	SpT (IR) (11)	Distance (pc) (13)	V_{tan} (km s^{-1}) (14)	Note[r] (15)	Epoc (16
2MASS J20370715-1137569	19	20 37 07.15	-11 37 56.9	12.27 ± 0.03	11.26 ± 0.02	-0.01 ± 0.11	-0.41 ± 0.06	36	M8	—	17 ± 1	33 ± 5	—	1998
2MASS J20391314-1126531	19	20 39 13.14	-11 26 53.1	13.79 ± 0.03	12.68 ± 0.03	0.064 ± 0.011	-0.105 ± 0.011	9	M8	—	34 ± 3	20 ± 2	—	1998
2MASS J20414283-3506442	20	20 41 42.83	-35 06 44.2	14.89 ± 0.03	13.40 ± 0.04	0.063 ± 0.010	-0.120 ± 0.012	19	L2	—	33 ± 5	21 ± 4	—	1998
2MASS J20450238-6332066	74	20 45 02.38	-63 32 06.6	12.62 ± 0.03	11.21 ± 0.02	0.097 ± 0.008	-0.201 ± 0.017	17	M9	—	17 ± 1	18 ± 2	—	2000
2MASS J20473176-0808201	19	20 47 31.76	-08 08 20.1	13.63 ± 0.03	12.59 ± 0.03	0.1 ± 0.3	-0.2 ± 0.3	9	M7	—	39 ± 5	41 ± 55	—	1998
2MASS J20491972-1944324	33	20 49 19.72	-19 44 32.4	12.85 ± 0.02	11.79 ± 0.02	0.193 ± 0.019	-0.260 ± 0.019	29	M7.5	—	24 ± 2	37 ± 4	—	1998
2MASSI J2054358+151904	47	20 54 35.85	+15 19 04.3	16.37 ± 0.13	14.98 ± 0.14	-0.045 ± 0.018	-0.082 ± 0.018	10	L1	—	75 ± 10	33 ± 8	—	2000
2MASSI J2057153+171515	47	20 57 15.38	+17 15 15.4	15.97 ± 0.09	14.50 ± 0.07	0.090 ± 0.016	0.066 ± 0.015	10	L1.5	—	58 ± 4	31 ± 5	—	2000
2MASSI J2057540-025230	19	20 57 54.09	-02 52 30.2	13.12 ± 0.02	11.72 ± 0.03	0.01 ± 0.02	-0.08 ± 0.02	36	L1.5	L1.5	16 ± 1	6 ± 2	—	1998
2MASSW J2101154+175658	47	21 01 15.44	+17 56 58.6	16.85 ± 0.17	14.89 ± 0.12	0.144 ± 0.003	-0.151 ± 0.003	44	L7.5	—	33.2 ± 3.8[q]	32.8 ± 3.8	CB	2000
2MASSI J2104149-103736	19	21 04 14.91	-10 37 36.9	13.84 ± 0.03	12.37 ± 0.02	0.614 ± 0.016	-0.281 ± 0.015	10	L3	—	17 ± 2	55 ± 5	—	1998
2MASSI J2107316-030733	19	21 07 31.69	-03 07 33.7	14.20 ± 0.03	12.88 ± 0.03	0.170 ± 0.018	-0.010 ± 0.013	10	L0	—	31 ± 2	25 ± 3	—	2000
2MASS J21075409-4544064	83	21 07 54.09	-45 44 06.4	14.92 ± 0.03	13.38 ± 0.03	0.107 ± 0.014	-0.027 ± 0.020	19	L0	—	43 ± 5	23 ± 4	—	1999
HD 203030B	70	21 18 58.97	+26 13 46.1	18.13 ± 0.55	16.21 ± 0.10	0.133 ± 0.001	0.0092 ± 0.0008	34	—	L7.5	40.8 ± 1.8[l]	25.8 ± 1.1	VLMC	1997
SDSS J212413.89+010000.3	54	21 24 13.87	+00 59 59.9	16.15 ± 0.06[c]	15.97 ± 0.06[c]	0.202 ± 0.014	0.287 ± 0.014	10	—	T5	18 ± 2	29 ± 4	—	2000
2MASSW J2130446-084520	49	21 30 44.64	-08 45 20.5	14.14 ± 0.03	12.82 ± 0.03	0.360 ± 0.013	-0.031 ± 0.014	10	L1.5	—	25 ± 2	43 ± 3	—	1999
2MASS J21321145+1341584	20	21 32 11.45	+13 41 58.4	15.80 ± 0.06	13.84 ± 0.06	-0.055 ± 0.009	-0.395 ± 0.009	37	L6	—	28 ± 4[gg]	53 ± 8	CB	1998
SDSS J213240.36+102949.4	18	21 32 40.36	+10 29 49.4	16.51 ± 0.06[a]	14.80 ± 0.06[a]	0.120 ± 0.018	-0.007 ± 0.019	19	—	L4.5	44 ± 9	25 ± 6	—	2000
SDSS J213352.72+101841.0	18	21 33 52.74	+10 18 41.0	17.05 ± 0.06[a]	15.65 ± 0.06[a]	-0.008 ± 0.012	-0.094 ± 0.012	19	—	L5	55 ± 10	25 ± 5	—	2000
2MASS J21371044+1450475	83	21 37 10.44	+14 50 47.5	14.13 ± 0.03	12.82 ± 0.03	-0.138 ± 0.014	-0.122 ± 0.017	10	L2	—	23 ± 2	20 ± 2	—	2000
2MASS J21373742+0808463	83	21 37 37.42	+08 08 46.3	14.77 ± 0.03	13.02 ± 0.03	0.705 ± 0.021	0.102 ± 0.019	10	L4	—	22 ± 4	74 ± 15	—	2000
2MASS J21392676+0220226	21	21 39 26.76	+02 20 22.6	15.26 ± 0.05	13.58 ± 0.05	0.507 ± 0.022	0.123 ± 0.022	19	—	T1	11.0 ± 0.3	27 ± 1	—	2000
2MASS J21402931+1625183	33	21 40 29.31	+16 25 18.3	12.94 ± 0.03	11.83 ± 0.03	-0.008 ± 0.019	-0.102 ± 0.019	29	M8.5	—	26 ± 4[w]	12 ± 3	CB	1998
SDSS J214046.55+011259.7	40	21 40 46.54	+01 12 59.4	15.89 ± 0.08	14.42 ± 0.08	-0.078 ± 0.020	-0.164 ± 0.022	10	L3	—	44 ± 4	38 ± 6	—	2000
2MASS J21420580-3101162	58	21 42 05.80	-31 01 16.2	15.84 ± 0.07	13.97 ± 0.05	0.060 ± 0.012	-0.095 ± 0.014	19	L3	—	43 ± 4	23 ± 3	—	1998
HN Peg B	64	21 44 28.47	+14 46 07.7	15.86 ± 0.03	15.12 ± 0.03	0.230 ± 0.004	-0.111 ± 0.003	34	—	T2.5	18.2 ± 1.2[l]	22.1 ± 1.5	VLMC	1998
2MASS J21481633+4003594	108	21 48 16.33	+40 03 59.4	14.15 ± 0.03	11.77 ± 0.02	0.770 ± 0.018	0.456 ± 0.024	19	L6.5	—	7 ± 1	30 ± 5	—	2000
2MASS J21501592-7520367	83	21 50 15.92	-75 20 36.7	14.06 ± 0.03	12.67 ± 0.03	0.980 ± 0.048	-0.281 ± 0.014	16	L1	—	26 ± 3	125 ± 18	—	2000
2MASS J21512543-2441000	58	21 51 25.43	-24 41 00.0	15.75 ± 0.08	13.65 ± 0.05	0.278 ± 0.014	-0.021 ± 0.015	19	L3	—	41 ± 4	55 ± 6	—	1998
2MASS J21513839-4853542	29	21 51 38.39	-48 53 54.2	15.73 ± 0.07	15.43 ± 0.18	0.52 ± 0.07	-0.22 ± 0.04	18	—	T4	17 ± 2	47 ± 8	—	1999
2MASS J21522609+0937575	83	21 52 26.09	+09 37 57.5	15.19 ± 0.03	13.34 ± 0.03	0.294 ± 0.019	0.170 ± 0.017	10	L6	—	24 ± 5[ee]	39 ± 8	CB	2000
2MASS J21542494-1023022	63	21 54 24.94	-10 23 02.2	16.43 ± 0.12	< 17.05	0.193 ± 0.012	0.037 ± 0.012	19	—	T4.5	33 ± 4	30 ± 4	—	1998
2MASS J21543318+5942187	63	21 54 33.18	+59 42 18.7	15.66 ± 0.07	< 15.34	-0.182 ± 0.009	-0.445 ± 0.017	19	—	T6	10 ± 1	23 ± 3	—	1999
2MASS J21574904-5534420	83	21 57 49.04	-55 34 42.0	14.26 ± 0.03	13.00 ± 0.03	0.043 ± 0.011	-0.012 ± 0.019	19	L2	—	25 ± 2	5 ± 1	—	2000
2MASS J21580457-1550098	49	21 58 04.57	-15 50 09.8	15.04 ± 0.04	13.19 ± 0.04	0.070 ± 0.011	-0.033 ± 0.015	10	L4	—	25 ± 5	9 ± 2	—	2000
2MASS J22000201-3038327	44	22 00 02.01	-30 38 32.7	13.44 ± 0.03	12.20 ± 0.03	0.3 ± 0.1	-0.1 ± 0.1	25	M9	—	35 ± 2[t]	44 ± 17	CB	1999
DENIS-P J220002.05-303832.9B	44	22 00 02.01	-30 38 32.7	14.36 ± 0.10	13.09 ± 0.10	0.210 ± 0.048	-0.064 ± 0.021	22	—	L0	35 ± 2[t]	37 ± 9	CB	1999
eps Indi Ba	92	22 04 10.52	-56 46 57.7	12.29 ± 0.02	11.35 ± 0.02	3.9600 ± 0.0006	-2.5388 ± 0.0004	34	—	T1	3.6 ± 0.1[l]	80.9 ± 2.0	VLMC	1999
eps Indi Bb	92	22 04 10.52	-56 46 57.7	13.23 ± 0.02	13.53 ± 0.02	3.9600 ± 0.0006	-2.5388 ± 0.0004	34	—	T6	3.6 ± 0.1[l]	80.9 ± 2.0	VLMC	1999
2MASS J22062280-2047058	33	22 06 22.80	-20 47 05.8	12.37 ± 0.02	11.32 ± 0.03	0.019 ± 0.007	-0.031 ± 0.005	12	M8	—	26.7 ± 2.4[f]	4.5 ± 0.6	CB	1998
2MASSW J2206450-421721	47	22 06 44.98	-42 17 20.8	15.56 ± 0.07	13.61 ± 0.06	0.111 ± 0.013	-0.182 ± 0.018	19	L2	—	45 ± 3	45 ± 5	—	1998
2MASSW J2208136+292121	47	22 08 13.63	+29 21 21.5	15.80 ± 0.09	14.15 ± 0.07	0.111 ± 0.014	-0.011 ± 0.014	10	L2	—	50 ± 4	27 ± 4	—	1997
2MASS J22120703+3430351	74	22 12 07.03	+34 30 35.1	16.32 ± 0.10	14.37 ± 0.07	0.160 ± 0.023	-0.232 ± 0.028	19	L5	—	30 ± 11	41 ± 15	—	2000
2MASS J22134491-2136079	20	22 13 44.91	-21 36 07.9	15.38 ± 0.04	13.76 ± 0.04	0.060 ± 0.011	-0.063 ± 0.017	10	L0	—	54 ± 7	22 ± 5	LG	1998
2MASS J22145070-1319590	19	22 14 50.70	-13 19 59.0	13.46 ± 0.03	12.32 ± 0.03	0.255 ± 0.015	-0.263 ± 0.015	9	M7.5	—	32 ± 3	55 ± 6	—	1998
2MASSW J2224438-015852	47	22 24 43.81	-01 58 52.1	14.02 ± 0.06[c]	12.02 ± 0.06[c]	0.457 ± 0.002	-0.871 ± 0.001	15	L4.5	L3.5	11.4 ± 0.1[h]	52.9 ± 0.7	—	1998
2MASS J22264440-7503425	57	22 26 44.40	-75 03 42.5	12.35 ± 0.02	11.25 ± 0.02	0.048 ± 0.019	0.014 ± 0.019	29	M8	—	17 ± 1	4 ± 2	—	1999
2MASS J22282889-4310262	14	22 28 28.89	-43 10 26.2	15.66 ± 0.07	15.30 ± 0.21	0.03 ± 0.08	-0.31 ± 0.03	8	—	T6	10 ± 1	15 ± 2	—	1998

Table 3—Continued

Source Name (1)	Ref. (2)	RA (J2000) (3)	DEC (J2000) (4)	2MASS J (mag) (5)	2MASS K_s (mag) (6)	$\mu_\alpha cos(\delta)$ ($''$/yr) (7)	μ_δ ($''$/yr) (8)	μ Ref. (9)	SpT (opt) (10)	SpT (IR) (11)	Distance (pc) (13)	V_{tan} (km s^{-1}) (14)	Note[r] (15)	Epoch (16)
2MASS J22354905+1840298	33	22 35 49.05	+18 40 29.8	12.39 ± 0.02	11.37 ± 0.02	0.326 ± 0.019	0.042 ± 0.019	29	M7	—	22 ± 3	34 ± 5	—	1997.8
2MASS J22373255+3922398	53	22 37 32.55	+39 22 39.8	13.34 ± 0.02	12.18 ± 0.02	0.022 ± 0.002	-0.341 ± 0.002	34	M9.5	—	18.9 ± 0.7[l]	30.6 ± 1.1	—	1998.8
2MASSI J2238074+435317	19	22 38 07.42	+43 53 17.9	13.84 ± 0.03	12.52 ± 0.03	0.324 ± 0.012	-0.132 ± 0.016	19	L1.5	—	22 ± 2	36 ± 3	—	1998.8
2MASS J22425317+2542573	35	22 42 53.17	+25 42 57.3	14.81 ± 0.04	13.05 ± 0.03	0.409 ± 0.015	-0.045 ± 0.016	10	L3	—	27 ± 2	52 ± 5	—	1998.8
2MASS J22431696-5932206	45	22 43 16.96	-59 32 20.6	14.07 ± 0.03	12.84 ± 0.03	-0.016 ± 0.024	-0.243 ± 0.023	22	—	L0	29 ± 4	34 ± 5	—	2000.8
2MASSW J2244316+204343	23	22 44 31.67	+20 43 43.3	16.47 ± 0.06[c]	13.93 ± 0.06[c]	0.252 ± 0.014	-0.214 ± 0.011	10	L6.5	L7.5	19 ± 2	30 ± 3	—	1997.8
SDSSp J224953.45+004404.2	32	22 49 53.45	+00 44 04.6	16.41 ± 0.06[c]	14.41 ± 0.06[c]	0.075 ± 0.018	0.026 ± 0.018	19	L3	L5	56 ± 5	21 ± 5	—	2000.6
2MASS J22520151-1815594	19	22 52 01.51	-18 15 59.4	13.52 ± 0.03	12.37 ± 0.02	0.081 ± 0.015	-0.382 ± 0.016	9	M8.5	—	28 ± 2	52 ± 4	—	2000.6
DENIS-P J225210.73-173013.4	44	22 52 10.73	-17 30 13.4	14.31 ± 0.03	12.90 ± 0.02	0.405 ± 0.020	0.154 ± 0.020	10	—	L7.5	14 ± 3[ee]	28 ± 7	CB	1999.5
2MASSI J2254188+312349	10	22 54 18.92	+31 23 49.8	15.26 ± 0.06[c]	14.95 ± 0.06[c]	0.068 ± 0.015	0.201 ± 0.011	10	—	T4	14 ± 2	14 ± 2	—	1998.5
2MASSI J2254519-284025	19	22 54 51.94	-28 40 25.3	14.13 ± 0.02	12.96 ± 0.02	0.008 ± 0.019	0.052 ± 0.030	10	L0.5	L0.5	29 ± 2	7 ± 4	—	2000.6
2MASS J22551861-5713056	45	22 55 18.61	-57 13 05.6	14.08 ± 0.03	12.58 ± 0.03	-0.216 ± 0.011	-0.260 ± 0.020	19	—	L5.5	12 ± 1	20 ± 2	—	1999.9
SDSSp J225529.09-003433.4	90	22 55 29.07	-00 34 33.6	15.65 ± 0.06	14.44 ± 0.08	-0.036 ± 0.001	-0.176 ± 0.003	44	L0	—	62 ± 10[q]	53 ± 9	—	1999.6
SDSS J225913.88-005158.2	40	22 59 13.88	-00 51 58.1	16.36 ± 0.10	14.65 ± 0.09	0.084 ± 0.017	0.068 ± 0.017	10	L2	—	65 ± 5	33 ± 6	—	2000.7
2MASS J23062928-0502285	33	23 06 29.28	-05 02 28.5	11.35 ± 0.02	10.30 ± 0.02	0.922 ± 0.002	-0.472 ± 0.003	12	M8	—	12.1 ± 0.4[f]	59.5 ± 1.9	—	1998.7
SSSPM J2310-1759	62	23 10 18.46	-17 59 09.0	14.38 ± 0.03	12.97 ± 0.03	0.024 ± 0.017	-0.246 ± 0.013	31	L0	L1	34 ± 4	40 ± 5	—	1998.5
2MASS J23211254-1326282	45	23 21 12.54	-13 26 28.2	14.50 ± 0.03	13.14 ± 0.03	0.550 ± 0.036	-0.171 ± 0.036	22	—	L1	32 ± 2	87 ± 8	—	1999.5
2MASS J23224684-3133231	74	23 22 46.88	-31 33 23.1	13.58 ± 0.03	12.32 ± 0.02	-0.210 ± 0.017	-0.519 ± 0.020	19	L0	—	23 ± 3	62 ± 8	—	1999.6
2MASS J23254530+4251488	20	23 25 45.30	+42 51 48.8	15.49 ± 0.05	13.76 ± 0.05	0.00 ± 0.22	-0.28 ± 0.10	36	L8	—	14 ± 1	19 ± 7	—	1998.8
SDSS J232804.58-103845.7	18	23 28 04.59	-10 38 45.2	16.89 ± 0.06[a]	15.24 ± 0.06[a]	-0.010 ± 0.015	-0.037 ± 0.015	19	—	L3.5	64 ± 6	12 ± 5	—	1998.8
2MASS J23302258-0347189	20	23 30 22.58	-03 47 18.9	14.48 ± 0.03	13.12 ± 0.03	0.232 ± 0.017	0.032 ± 0.014	10	L1	—	31 ± 4	35 ± 5	—	1998.8
2MASS J23310161-0406193	33	23 31 01.61	-04 06 19.3	12.94 ± 0.02	11.95 ± 0.03	0.401 ± 0.019	-0.231 ± 0.019	29	M8	—	26 ± 1[w]	58 ± 3	CB	1998.8
2MASS J23312174-2749500	57	23 31 21.74	-27 49 50.0	11.65 ± 0.02	10.65 ± 0.03	0.077 ± 0.002	0.760 ± 0.001	12	M7.5	—	14.5 ± 0.4[f]	52.4 ± 1.6	—	1999.4
2MASS J23312378-4718274	13	23 31 23.78	-47 18 27.4	15.66 ± 0.07	15.39 ± 0.20	0.104 ± 0.013	-0.049 ± 0.019	19	—	T5	13 ± 2	7 ± 1	—	2000.8
2MASS J23343945+1933041	33	23 34 39.45	+19 33 04.1	12.78 ± 0.02	11.62 ± 0.02	-0.236 ± 0.019	-0.117 ± 0.019	29	M8	—	21 ± 2	26 ± 3	—	1997.8
2MASS J23364395+2153388	57	23 36 43.95	+21 53 38.8	12.71 ± 0.02	11.72 ± 0.02	0.203 ± -0.037	0.024 ± 0.019	29	M7	—	25 ± 3	46 ± 6	—	2000.4
2MASS J23371491-0838084	22	23 37 14.91	-08 38 08.4	12.19 ± 0.03	11.19 ± 0.02	0.248 ± 0.019	0.017 ± 0.019	29	M7	—	20 ± 2	24 ± 3	—	1998.8
2MASSI J2339101+135230	10	23 39 10.25	+13 52 28.4	16.08 ± 0.06[c]	16.07 ± 0.06[c]	0.30 ± 0.15	-0.77 ± 0.12	4	—	T5	18 ± 2	73 ± 13	—	2000.9
2MASS J23440624-0733282	49	23 44 06.24	-07 33 28.2	14.80 ± 0.04	13.23 ± 0.03	0.021 ± 0.017	-0.051 ± 0.008	10	L4.5	—	20 ± 2	5 ± 1	—	1998.8
2MASS J23453903+0055137	83	23 45 39.03	+00 55 13.7	13.77 ± 0.03	12.58 ± 0.03	0.101 ± 0.019	-0.034 ± 0.014	10	L0	—	26 ± 2	13 ± 2	—	2000.6
2MASS J23464599+1129094	74	23 46 45.99	+11 29 09.4	12.80 ± 0.02	11.61 ± 0.02	-0.40 ± 0.07	-0.07 ± 0.06	36	M9	—	18 ± 1	36 ± 7	—	2000.7
2MASS J23465471-3153532	25	23 46 54.71	-31 53 53.2	13.28 ± 0.02	12.20 ± 0.03	0.460 ± 0.030	-0.458 ± 0.030	16	M8	—	27 ± 2	83 ± 9	—	1999.0
2MASS J23473680+2702068	33	23 47 36.80	+27 02 06.8	13.19 ± 0.02	11.98 ± 0.02	0.313 ± 0.019	0.033 ± 0.019	29	M9	—	22 ± 1	33 ± 3	—	1998.0
2MASS J23494899+1224386	33	23 49 48.99	+12 24 38.6	12.60 ± 0.02	11.56 ± 0.02	0.018 ± 0.019	-0.209 ± 0.019	29	M8	—	20 ± 2	20 ± 2	—	1998.7
2MASS J23515044-2537367	61	23 51 50.44	-25 37 36.7	12.47 ± 0.03	11.27 ± 0.03	0.387 ± 0.021	0.163 ± 0.009	17	M8	—	18 ± 2	36 ± 4	—	1998.9
2MASS J23535946-0833311	77	23 53 59.46	-08 33 31.1	13.03 ± 0.03	11.93 ± 0.03	-0.6 ± 0.2	0.0 ± 0.2	9	M8.5	—	22 ± 2	61 ± 22	—	1998.8
2MASSI J2356547-155310	10	23 56 54.77	-15 53 11.1	15.76 ± 0.06[c]	15.62 ± 0.06[c]	-0.443 ± 0.002	-0.600 ± 0.002	44	—	T5.5	14.5 ± 0.7[q]	51.3 ± 2.6	—	1998.5

Note. — Discovery Reference Key:1 = Artigau et al. (2006) 2 = Becklin & Zuckerman (1988) 3 = Berriman et al. (2003) 4 = Biller et al. (2006) 5 = Bouy et al. (2003) 6 = Burgasser et al. (2004) 6B = Burgasser (2004a) 7 = Burgasser et al. (1999) 8 = Burgasser et al. (2000a) 9 = Burgasser et al. (2000b) 10 = Burgasser et al. (2002) 11 = Burgasser et al. (2003b) 12 = Burgasser et al. (2003a) 13 = Burgasser et al. (2004) 14 = Burgasser et al. (2003c) 15 = Ruiz et al. (2001) 16 = Chauvin et al. (2004) 17 = Chauvin et al. (2005) 18 = Chiu et al. (2006) 19 = Cruz et al. (2003) 20 = Cruz et al. (2007) 21 = Cruz et al. (in prep) 22 = Cruz & Reid (2002) 23 = Dahn et al. (2002) 24 = Deacon & Hambly (2007) 25 = Deacon et al. (2005) 26 = Delfosse et al. (1997) 27 = Delfosse et al. (1999) 28 = Delfosse et al. (2001) 29 = Ellis et al. (2005) 30 = Fan et al. (2000) 31 = Folkes et al. (2007) 32 = Geballe et al. (2002) 33 = Gizis et al. (2000) 34 = Gizis et al. (2001) 35 = Gizis et al. (2003) 36 = Gizis (2002) 37 = EROS Collaboration et al. (1999) 38 = Golimowski et al. (2004) 39 = Hall (2002) 40 = Hawley et al. (2002) 41 = Henry et al. (2004) 42 = Irwin et al. (1991) 43 = Kendall et al. (2003) 44 = Kendall et al. (2004) 45 = Kendall et al. (2007) 46 = Kirkpatrick et al. (1999) 48 = Kirkpatrick et al. (2006) 49 = Kirkpatrick et al. (in prep) 50 = Kirkpatrick et al. (1997) 51 = Kirkpatrick et al. (1991) 52 = Kirkpatrick et al. (1993) 53 = Kirkpatrick et al. (2001) 54 = Knapp et al. (2004) 55 = Leggett et al. (2000) 56 = Lépine et al. (2002) 57 = Luyten (1995) 58 = Liebert & Gizis (2006) 59 = Liebert et al. (2003) 60 = Liu et al. (2002) 61 = Lodieu et al. (2005) 62 = Lodieu et al. (2002) 63 = Looper et al. (2007) 64 = Luhman

(2007) 65 = Martín et al. (1999) 66 = Martin et al. (1994) 67 = McElwain & Burgasser (2006) 68 = Ménard et al. (2002) 69 = Metchev & Hillenbrand (2004) 70 = Metchev & Hillenbrand (2006) 71 = Mugrauer (2006) 72 = Nakajima et al. (1995) 73 = Neuhäuser et al. (2005) 74 = Paper 10 75 = Phan-Bao et al. (2008) 76 = Phan-Bao et al. (2006) 77 = Phan-Bao et al. (2001) 78 = Phan-Bao et al. (2003) 79 = Potter et al. 80 = Probst & Liebert (1983) 81 = Rebolo et al. (1998) 82 = Reid et al. (2000) 83 = Reid et al. (in prep) 84 = Reid & Cruz (2002) 85 = Reid & Gilmore (1981) 86 = Reylé & Robin (2004) 87 = Ruiz et al. (1997) alim et al. (2003) 89 = Schneider et al. (1991) 90 = Schneider et al. (2002) 91 = Scholz & Meusinger (2002) 92 = Scholz et al. (2003) 93 = Scholz et al. (2000) 94 = Scholz et al. (2005) 95 = Stern et al. (2007) 96 uss et al. (1999) 97 = Teegarden et al. (2003) 98 = Thorstensen & Kirkpatrick (2003) 99 = Tinney et al. (2005) 100 = Tinney et al. (1993) 101 = Tinney et al. (1998) 102 = Tinney et al. (1993) 103 = Tsvetanov (2000) 104 = Wilson et al. (2001) 105 = Wilson et al. (2003) 106 = Wilson (2002) 107 = Zapatero Osorio et al. (2002) 108 = Looper et al. (2008) 109 = Hambly et al. (2004)

e. — PM reference 1 = Artigau et al. (2006) 2 = Bartlett (2007) 3 = Burgasser (2004a) 4 = Burgasser et al. (2003b) 5 = Burgasser et al. (2004) 6 = Burgasser et al. (2007b) 7 = Burgasser et al. (2008b) 8 = sser et al. (2003c) 9 = Caballero (2007) 10 = Jameson et al. (2007) 11 = Ruiz et al. (2001) 12 = Costa et al. (2006) 13 = Costa et al. (2005) 14 = Cruz et al. (2007) 15 = Dahn et al. (2002) 16 = Deacon et al. 17 = Deacon & Hambly (2007) 18 = Ellis et al. (2005) 19 = Faherty et al. 2008 20 = Folkes et al. (2007) 21 = Gizis et al. (2007) 22 = Hambly et al. (2001) 23 = Henry et al. (2006) 24 = Kendall et al. (2003) 25 dall et al. (2004) 27 = Kendall et al. (2007) 28 = Lépine et al. (2002) 29 = Luyten (1995) 30 = Lodieu et al. (2005) 31 = Lodieu et al. (2002) 32 = Looper et al. (2007) 33 = Monet et al. (1992) 34 = Perryman (1997) 35 = Phan-Bao et al. (2008) 36 = Schmidt et al. (2007) 37 = Siegler et al. (2007) 38 = Stern et al. (2007) 39 = Teixeira et al. (2000) 40 = Thorstensen & Kirkpatrick (2003) 41 = Tinney et al. (2005) 42 = (1996) 43 = Tinney et al. (2003) 44 = Vrba et al. (2004) 45 = Osorio et al. (2007) 46 = van Altena et al. (1995)

e. — Key for distance and photometry footnotes: a = Chiu et al. 2006 MKO photometry converted to 2MASS b = Kendall et al. 2007 MKO photometry converted to 2MASS c = Knapp et al. 2004 MKO photometry ted to 2MASS d = Lodieu et al. 2007 MKO photometry converted to 2MASS e = Parallax from Bartlett (2007) f = Parallax from Costa et al. (2006) g = Parallax from Costa et al. (2005) h = Parallax from Dahn (2002) i = Parallax from Gizis et al. (2007) j = Parallax from Henry et al. (2006) k = Parallax from Monet et al. (1992) l = Parallax from Perryman et al. (1997) m = Parallax from Thorstensen & Kirkpatrick n = Parallax from Tinney (1996) o = Parallax from Tinney et al. (2003) p = Parallax from van Altena et al. (1995) q = Parallax from Vrba et al. (2004) s = Binary Distance from Bouy et al. (2003) t = Binary ce from Burgasser & McElwain (2006) u = Binary Distance from Burgasser et al. (2006b) v = Binary Distance from Burgasser et al. (2007b) w = Binary Distance from Close et al. (2003) x = Binary Distance from le et al. (2005) y = Binary Distance from Kirkpatrick et al. (2000) z = Binary Distance from Law et al. (2006) aa = Binary Distance from Liu et al. (2006) bb = Binary Distance from Martín et al. (2005) cc = Distance from Martín et al. (2006) dd = Binary Distance from McElwain & Burgasser (2006) ee = Binary Distance from Reid et al. (2006) ff = Binary Distance from Siegler et al. (2003) gg = Binary Distance iegler et al. (2007) hh = Binary Distance from vlmbinaries.org ii = Binary Distance from Burgasser (2007)

MC is a wide, very low mass companion, UBL is an Unusually Blue L dwarf, LG is a low surface-gravity dwarf, YC is a dwarf linked to a young cluster, CB is a close binary unresolved in 2MASS

Table 4. Discrepant Proper Motion Values

Name	$\mu_\alpha cos(\delta)$ (″/yr) This Paper	μ_{dec} (″/yr) This Paper	$\mu_\alpha cos(\delta)$ (″/yr) Literature	μ_{dec} (″/yr) Literature	Reference
SIPS J0050-1538	-0.229 ± 0.018	-0.494 ± 0.019	-0.495 ± 0.039	-0.457 ± 0.038	16
2MASSJ02271036-1624479	0.426 ± 0.016	-0.297 ± 0.017	0.509 ± 0.016	-0.303 ± 0.010	16
2MASSJ09393548-2448279	0.592 ± 0.019	-1.064 ± 0.021	0.486 ± 0.031	-1.042 ± 0.055	41
2MASSWJ1155395-372735	0.050 ± 0.012	-0.767 ± 0.015	0.113 ± 0.005	-0.861 ± 0.039	16
			0.013 ± 0.015	-0.778 ± 0.013	9
			0.06 ± 0.04	-0.82 ± 0.07	36
2MASSJ13411160-3052505	0.030 ± 0.013	-0.134 ± 0.015	0.109 ± 0.014	-0.163 ± 0.022	17
2MASSJ13475911-7610054	0.203 ± 0.005	0.038 ± 0.020	0.257 ± 0.063	0.287 ± 0.063	22
			0.193 ± 0.011	0.049 ± 0.019	35
2MASSWJ1448256+103159	0.262 ± 0.022	-0.120 ± 0.022	0.70 ± 0.15	-0.10 ± 0.16	36
			0.249 ± 0.015	-0.099 ± 0.016	10
2MASSWJ1507476-162738	-0.128 ± 0.014	-0.906 ± 0.015	-0.043 ± 0.011	-1.037 ± 0.255	16
			-0.1615 ± 0.0016	-0.8885 ± 0.0006	15
			-0.147 ± 0.003	-0.890 ± 0.002	12
			-0.09 ± 0.11	-0.88 ± 0.06	36
2MASSJ15485834-1636018	-0.210 ± 0.016	-0.107 ± 0.017	-0.189 ± 0.016	-0.176 ± 0.015	17
			-0.098 ± 0.043	-0.161 ± 0.042	22
2MASSWJ1555157-095605	0.950 ± 0.015	-0.767 ± 0.015	0.929 ± 0.014	-2.376 ± 0.017	10
			0.961 ± 0.017	-0.835 ± 0.014	16
			-0.400 ± 1.200	-1.900 ± 1.100	9
2MASSJ19360187-5502322	0.169 ± 0.009	-0.298 ± 0.016	0.603 ± 0.037	-0.579 ± 0.035	16
			0.22 ± 0.29	-0.19 ± 0.28	36
2MASSJ22551861-5713056	-0.216 ± 0.011	-0.260 ± 0.020	0.394 ± 0.321	-1.525 ± 0.319	22
			-0.16 ± 0.11	-0.32 ± 0.13	36
2MASSJ23302258-0347189	0.223 ± 0.022	0.014 ± 0.022	0.349 ± 0.051	-0.107 ± 0.016	16
			0.232 ± 0.017	0.032 ± 0.013	10

Note. — Details on the discrepant proper motion objects. We note only objects whose proper motion values were discrepant by more than 2σ. Proper motion references are listed in Table 3.

Table 5. Median Photometric and Kinematic Properties of Ultracool Dwarfs

SpT (1)	N_{μ} (2)	μ_{median} (″/yr) (3)	σ_{μ} (″/yr) (4)	Median Dist (pc) (5)	σ_{dist} (pc) (6)	N_{J-K_s} (7)	$(J-K_s)_{avg}$ (8)	$2^*\sigma_{J-K_s}$ (9)	N_{Red} (10)	N_{Blue} (11)
M7	88	0.261	0.553	25	10	160	1.08	0.19	0	1
M8	114	0.210	0.403	23	8	147	1.14	0.18	1	1
M9	71	0.204	0.357	22	10	107	1.20	0.22	1	0
L0	93	0.111	0.211	32	19	92	1.31	0.37	4	1
L1	83	0.208	0.301	31	21	82	1.39	0.37	4	1
L2	58	0.185	0.209	32	17	63	1.52	0.40	5	1
L3	64	0.189	0.398	33	17	67	1.65	0.39	1	1
L4	50	0.183	0.284	27	12	44	1.73	0.40	2	2
L5	43	0.323	0.281	24	12	43	1.74	0.40	0	1
L6	36	0.215	0.339	26	12	31	1.75	0.40	4	2
L7	21	0.247	0.186	23	9	15	1.81	0.40	0	2
L8	16	0.280	0.368	19	8	16	1.77	0.33	2	0
L9	3	0.424	0.200	20	6	7	1.69	0.19	0	0
T0	9	0.333	0.165	18	4	8	1.63	0.40	0	0
T1	11	0.289	1.336	23	9	10	1.31	0.40	1	1
T2	13	0.350	0.285	15	7	15	1.02	0.40	1	0
T3	7	0.183	0.135	26	6	5	0.63	0.40	1	0
T4	13	0.323	0.219	23	9	6	0.26	0.40	0	0
T5	20	0.340	0.351	15	3	12	0.07	0.39	0	0
T6	15	0.594	1.217	11	18	5	-0.30	0.40	2	1
T7-T8	13	1.218	0.764	9	3	6	-0.08	0.40	0	1
M7-M9	273	0.222	0.445	23	9	414	1.12	0.22	2	2
L0-L9	467	0.189	0.292	29	17	460	1.53	0.40	22	11
T0-T9	101	0.373	0.801	15	10	67	0.74	0.40	5	3

Note. — To calculate the $(J-K_s)_{avg}$ for each spectral type, we chose only objects that were not identified as binaries,young cluster members, subdwarfs and/or had σ_J and $\sigma_{K_s} < 0.20$.

Table 6. 20 pc Sample

SpT (1)	N (2)	N High V_{tan} (3)	median V_{tan} (km s^{-1}) (4)	median V_{tan} with high V_{tan} (km s^{-1}) (5)	σ_{tan} (km s^{-1}) (6)	σ_{tan} with high V_{tan} (km s^{-1}) (7)	Age (Gyr) (8)	Age with high V_{tan} (Gyr) (9)
M7	29	0	25	25	20	20	—	—
M8	37	1	33	33	20	25	—	—
M9	27	1	26	26	22	26	—	—
L0	9	0	19	19	21	21	—	—
L1	19	0	30	30	29	29	—	—
L2	10	0	27	27	16	16	—	—
L3	12	3	32	38	20	46	—	—
L4	15	1	27	27	20	28	—	—
L5	16	0	27	27	21	21	—	—
L6	10	0	28	28	24	24	—	—
L7	9	0	30	30	9	9	—	—
L8	12	0	25	25	20	20	—	—
L9	2	0	41	41	0	0	—	—
T0	6	0	32	32	15	15	—	—
T1	3	0	66	66	28	28	—	—
T2	8	0	26	26	5	5	—	—
T3	1	0	39	39	0	0	—	—
T4	5	0	21	21	16	16	—	—
T5	20	0	21	21	23	23	—	—
T6	14	0	44	44	22	22	—	—
T7	10	1	45	54	15	34	—	—
T8	3	0	57	57	8	8	—	—
M7-M9	93	2	29	29	21	24	$3.0^{+1.0}_{-0.8}$	$5.0^{+1.7}_{-1.4}$
L0-L9	114	5	27	27	21	26	$3.2^{+1.1}_{-0.9}$	$6.6^{+2.2}_{-1.8}$
T0-T9	70	1	30	31	20	24	$2.8^{+1.0}_{-0.8}$	$4.6^{+1.6}_{-1.3}$

Note. — The age range is calculated from the Wielen (1977) age-velocity relation for the disk which uses a value of α of (1/3).

Table 7. Full Astrometric Sample

SpT (1)	N (2)	N High V_{tan} (3)	median V_{tan} (km s^{-1}) (4)	median V_{tan} with high V_{tan} (km s^{-1}) (5)	σ_{tan} (km s^{-1}) (6)	σ_{tan} with high V_{tan} (km s^{-1}) (7)	Age (Gyr) (8)	Age with high V_{tan} (Gyr) (9)
M7	88	0	27	27	19	19	—	—
M8	114	1	27	27	21	23	—	—
M9	71	1	23	23	19	21	—	—
L0	93	1	19	19	16	21	—	—
L1	83	2	32	33	23	27	—	—
L2	58	0	26	26	18	18	—	—
L3	64	3	30	32	18	27	—	—
L4	50	1	25	27	20	23	—	—
L5	43	0	25	25	20	20	—	—
L6	36	1	26	27	18	24	—	—
L7	21	1	28	28	13	22	—	—
L8	16	0	25	25	19	19	—	—
L9	3	0	38	38	17	17	—	—
T0	9	0	26	26	13	13	—	—
T1	11	0	31	31	25	25	—	—
T2	13	0	26	26	11	11	—	—
T3	7	0	25	25	10	10	—	—
T4	13	0	32	32	22	22	—	—
T5	20	0	21	21	23	23	—	—
T6	15	0	36	36	23	23	—	—
T7	10	1	45	54	15	34	—	—
T8	3	0	57	57	8	8	—	—
M7-M9	273	3	26	26	19	21	$2.5^{+0.9}_{-0.7}$	$3.2^{+1.1}_{-0.9}$
L0-L9	467	10	26	26	19	23	$2.5^{+0.9}_{-0.7}$	$4.5^{+1.6}_{-1.3}$
T0-T9	101	1	29	29	20	23	$2.7^{+1.0}_{-0.8}$	$4.0^{+1.4}_{-1.1}$

Note. — The age range is calculated from the Wielen (1977) age-velocity relation for the disk which uses a value of α of (1/3).

Table 8. Average Kinematics and Ages for the Subgroups

SpT	N	Median V_{tan} km s^{-1}	σ_{tan} km s^{-1}	Age Range Gyr
(1)	(2)	(3)	(4)	(5)
M7-T9/BLUE	16	53	47	$37.9^{+12.6}_{-10.3}$
M7-T9/RED	29	26	16	$1.2^{+0.5}_{-0.4}$
M7-L9/BLUE	13	56	50	$46.0^{+15.2}_{-12.4}$
M7-L9/RED	24	26	15	$1.0^{+0.4}_{-0.3}$
UBLs	10	99	47	$37.9^{+12.6}_{-10.3}$
Low Gravity	26	18	15	$1.0^{+0.4}_{-0.3}$

Note. — The age range is calculated from the Wielen (1977) age-velocity relation for the disk which uses a value of α of (1/3).

Table 9. Details on Red Photometric Outliers

Source Name	2MASS J (mag)	2MASS K_s (mag)	$\mu_\alpha cos(\delta)$ ($''$/yr)	μ_δ ($''$/yr)	μ Ref.	SpT (opt)	SpT (IR)	V_{tan} (km s^{-1})	Note[r]
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(11)
2MASS J00374306-5846229	15.37 ± 0.05	13.59 ± 0.05	0.049 ± 0.010	-0.051 ± 0.020	19	L0	—	18 ± 5	LG
SDSSp J010752.33+004156.1	15.82 ± 0.06	13.71 ± 0.04	0.628 ± 0.007	0.091 ± 0.004	44	L8	L5.5	46.9 ± 3.3	—
2MASS J01244599-5745379	16.31 ± 0.11	14.32 ± 0.09	-0.003 ± 0.010	0.018 ± 0.019	19	L0	—	7 ± 7	LG
2MASS J01415823-4633574	14.83 ± 0.04	13.10 ± 0.03	0.104 ± 0.017	-0.026 ± 0.024	19	L0	L0	21 ± 4	LG
2MASS J01490895+2956131	13.45 ± 0.02	11.98 ± 0.02	0.1757 ± 0.0008	-0.4021 ± 0.0007	15	M9.5	—	46.8 ± 0.7	—
2MASSI J0243137-245329	15.42 ± 0.06[c]	15.22 ± 0.06[c]	-0.288 ± 0.004	-0.208 ± 0.003	44	—	T6	18.0 ± 0.7	—
2MASS J03231002-4631237	15.39 ± 0.07	13.70 ± 0.05	0.060 ± 0.013	-0.010 ± 0.019	19	L0	—	16 ± 4	LG
2MASS J03264225-2102057	16.13 ± 0.09	13.92 ± 0.07	0.108 ± 0.014	-0.146 ± 0.015	19	L4	—	35 ± 5	—
2MASS J03421621-6817321	16.85 ± 0.14	14.54 ± 0.09	0.064 ± 0.007	0.021 ± 0.018	19	L2	—	26 ± 5	—
2MASS J03552337+1133437	14.05 ± 0.02	11.53 ± 0.02	0.192 ± 0.017	-0.613 ± 0.017	19	L5	—	25 ± 5	LG
2MASS J04351455-1414468	11.88 ± 0.03	9.95 ± 0.02	0.009 ± 0.014	0.016 ± 0.014	19	M8	—	1 ± 1	LG
2MASS J05012406-0010452	14.98 ± 0.04	12.96 ± 0.04	0.158 ± 0.014	-0.139 ± 0.014	19	L4	—	24 ± 5	LG
2MASSI J0512063-294954	15.46 ± 0.06	13.29 ± 0.04	-0.028 ± 0.016	0.099 ± 0.018	19	L4.5	—	13 ± 3	—
2MASS J05361998-1920396	15.77 ± 0.08	13.85 ± 0.06	0.017 ± 0.017	-0.024 ± 0.018	19	L1	—	8 ± 5	—
AB Pic b	16.18 ± 0.10	14.14 ± 0.08	0.0141 ± 0.0008	0.0452 ± 0.0010	34	—	L1	10.2 ± 0.4	VLMC
SDSS J080959.01+443422.2	16.51 ± 0.06[c]	14.34 ± 0.06[c]	-0.198 ± 0.014	-0.214 ± 0.019	19	—	L6	35 ± 7	—
SDSS J085834.42+325627.7	16.52 ± 0.06[a]	14.69 ± 0.06[a]	-0.760 ± 0.023	0.075 ± 0.023	19	—	T1	66 ± 3	—
G 196-3B	14.83 ± 0.05	12.78 ± 0.03	-0.133 ± 0.040	-0.185 ± 0.015	10	L2	—	35 ± 5	VLMC
2MASS J12123389+0206280	16.13 ± 0.13	14.19 ± 0.09	0.065 ± 0.021	-0.141 ± 0.021	19	—	L1	49 ± 9	—
2MASS J13243559+6358284	15.60 ± 0.07	14.06 ± 0.06	-0.343 ± 0.064	-0.260 ± 0.048	32	—	T2	26 ± 6	—
SDSSp J132629.82-003831.5	16.37 ± 0.06[c]	14.17 ± 0.06[c]	-0.226 ± 0.008	-0.107 ± 0.006	44	L8	L5.5	23.8 ± 3.2	—
SDSS J141530.05+572428.7	16.72 ± 0.06[a]	15.49 ± 0.06[a]	0.043 ± 0.013	-0.345 ± 0.025	19	—	T3	36 ± 12	—
2MASS J15311344+1641282	15.58 ± 0.06	13.80 ± 0.05	-0.076 ± 0.025	0.040 ± 0.026	19	—	L1	21 ± 8	—
2MASSI J1726000+153819	15.67 ± 0.07	13.66 ± 0.05	-0.031 ± 0.013	-0.048 ± 0.014	10	L2	—	13 ± 3	—
SDSS J175805.46+463311.9	16.17 ± 0.06[c]	15.99 ± 0.06[c]	0.026 ± 0.015	0.594 ± 0.016	10	—	T6.5	34 ± 4	—
2MASS J21481633+4003594	14.15 ± 0.03	11.77 ± 0.02	0.770 ± 0.018	0.456 ± 0.024	19	L6.5	—	30 ± 5	—
2MASS J21512543-2441000	15.75 ± 0.08	13.65 ± 0.05	0.278 ± 0.014	-0.021 ± 0.015	19	L3	—	55 ± 6	—
2MASSW J2206450-421721	15.56 ± 0.07	13.61 ± 0.06	0.111 ± 0.013	-0.182 ± 0.018	19	L2	—	45 ± 5	—
2MASSW J2244316+204343	16.47 ± 0.06[c]	13.93 ± 0.06[c]	0.252 ± 0.014	-0.214 ± 0.011	10	L6.5	L7.5	30 ± 3	—

Note. — See Table 3 for references and notes referred to in this table.

Table 10. Details on Blue Photometric Outliers

Source Name (1)	2MASS J (mag) (2)	2MASS K_s (mag) (3)	$\mu_\alpha cos(\delta)$ ($''$/yr) (4)	μ_δ ($''$/yr) (5)	μ Ref. (6)	SpT (opt) (7)	SpT (IR) (8)	V_{tan} (km s^{-1}) (9)	Note[r] (11)
HD 3651B	16.16 ± 0.03	16.87 ± 0.05	-0.4611 ± 0.0007	-0.3709 ± 0.0007	34	—	T7.5	31.2 ± 0.3	VLMC
SSSPM J0134-6315	14.51 ± 0.04	13.70 ± 0.04	0.077 ± 0.008	-0.081 ± 0.009	30	—	L0	19 ± 2	—
2MASS J02530084+1652532	8.39 ± 0.03	7.59 ± 0.05	3.404 ± 0.005	-3.807 ± 0.005	23	M7	—	92.9 ± 1.0	—
SDSS J090900.73+652527.2	16.00 ± 0.06[a]	15.16 ± 0.06[a]	-0.217 ± 0.003	-0.138 ± 0.008	19	—	T1	28 ± 1	—
2MASS J09211410-2104446	12.78 ± 0.02	11.69 ± 0.02	0.244 ± 0.016	-0.908 ± 0.017	19	L2	—	56 ± 4	UBL
SDSS J093109.56+032732.5	16.75 ± 0.10[c]	15.65 ± 0.10[c]	-0.612 ± 0.018	-0.131 ± 0.018	19	—	L7.5	108 ± 23	UBL
2MASSI J0937347+293142	14.58 ± 0.06[c]	15.51 ± 0.12[c]	0.973 ± 0.005	-1.298 ± 0.006	44	d/sdT6	T6	47.2 ± 1.1	—
SDSS J103321.92+400549.5	16.88 ± 0.06[a]	15.63 ± 0.10[a]	0.154 ± 0.013	-0.188 ± 0.018	19	—	L6	53 ± 10	UBL
SDSS J112118.57+433246.5	17.19 ± 0.10[a]	16.15 ± 0.08[a]	-0.057 ± 0.024	0.026 ± 0.033	19	—	L7.5	14 ± 6	UBL
2MASS J11263991-5003550	14.00 ± 0.03	12.83 ± 0.03	-1.570 ± 0.004	0.438 ± 0.011	20	L4.5	L9	106 ± 11	UBL
SDSS J114805.02+020350.9	15.52 ± 0.07	14.51 ± 0.12	0.237 ± 0.026	-0.322 ± 0.013	10	L1	—	96 ± 8	—
2MASS J12162161+4456340	16.35 ± 0.10	15.02 ± 0.12	-0.035 ± 0.014	-0.004 ± 0.019	19	L5	—	7 ± 3	—
SDSS J142227.25+221557.1	17.01 ± 0.06[a]	15.67 ± 0.06[a]	0.047 ± 0.019	-0.054 ± 0.020	19	—	L6.5	14 ± 6	UBL
DENIS-P J170548.38-051645.7	13.31 ± 0.03	12.03 ± 0.02	0.129 ± 0.014	-0.103 ± 0.015	10	—	L4	9 ± 1	—
2MASSI J1721039+334415	13.63 ± 0.02	12.49 ± 0.02	-1.854 ± 0.017	0.602 ± 0.017	10	L3	—	144 ± 13	UBL
2MASS J18261131+3014201	11.66 ± 0.02	10.81 ± 0.02	-2.280 ± 0.010	-0.684 ± 0.010	28	M8.5	—	132 ± 9	—

Note. — See Table 3 for references and notes referred to in this table.

Table 11. High V_{tan} Objects

Discovery Name (1)	J-K_s (2)	2MASS J (mag) (3)	2MASS K_s (mag) (4)	$\mu_\alpha cos(\delta)$ ($''$/yr) (5)	μ_δ ($''$/yr) (6)	SpT (opt) (7)	SpT (IR) (8)	Distance (pc) (9)	V_{tan} (km s^{-1}) (10)	Note[r] (11)
DENIS-P J1253108-570924	1.40	13.45 ± 0.02	12.05 ± 0.02	-1.575 ± 0.005	-0.434 ± 0.014	L0.5	—	21 ± 3	162 ± 20	—
2MASSIJ1721039+334415	1.14	13.63 ± 0.02	12.49 ± 0.02	-1.854 ± 0.017	0.602 ± 0.017	L3	—	16 ± 1	144 ± 13	UBL
2MASSJ11145133-2618235	-0.25	15.86 ± 0.08	< 16.11	-3.03 ± 0.04	-0.36 ± 0.04	—	T7.5	10 ± 2	140 ± 22	—
2MASSWJ1411175+393636	1.40	14.64 ± 0.03	13.24 ± 0.04	-0.911 ± 0.015	0.137 ± 0.016	L1.5	—	32 ± 2	138 ± 10	—
2MASS J182611.31+301420.1	0.85	11.66 ± 0.02	10.81 ± 0.02	-2.280 ± 0.010	-0.684 ± 0.010	M8.5	—	12 ± 1	132 ± 9	—
2MASSJ21501592-7520367	1.38	14.06 ± 0.03	12.67 ± 0.03	0.980 ± 0.048	-0.281 ± 0.014	L1	—	26 ± 3	125 ± 18	—
2MASSIJ0251148-035245	1.40	13.06 ± 0.03	11.66 ± 0.02	1.128 ± 0.013	-1.826 ± 0.020	L3	L1	12 ± 1	122 ± 11	—
SDSS J133148.92-011651.4	1.35	15.48 ± 0.06[c]	14.12 ± 0.06[c]	-0.407 ± 0.019	-1.030 ± 0.014	L6	L8	23 ± 2	119 ± 11	UBL
SDSSp J120358.19+001550.3	1.53	14.01 ± 0.03	12.48 ± 0.02	-1.209 ± 0.018	-0.261 ± 0.015	L3	—	19 ± 2	109 ± 10	—
SDSS J093109.56+032732.5	1.10	16.75 ± 0.10[c]	15.65 ± 0.10[c]	-0.612 ± 0.018	-0.131 ± 0.018	—	L7.5	36 ± 8	108 ± 23	UBL
2MASS J033412.18-495332.2	0.98	11.38 ± 0.02	10.39 ± 0.02	2.308 ± 0.012	0.480 ± 0.019	M9	—	10 ± 1	107 ± 7	—
2MASSJ11263991-5003550	1.17	14.00 ± 0.03	12.83 ± 0.03	-1.570 ± 0.004	0.438 ± 0.011	L4.5	L9	14 ± 1	106 ± 11	UBL
GJ 1001B, LHS 102B	1.71	13.11 ± 0.02	11.40 ± 0.03	0.6436 ± 0.0032	-1.4943 ± 0.0021	L5	L4.5	13.0 ± 0.7[j]	100.4 ± 5.2	CB
2MASS J132352.1+301433	1.10	13.68 ± 0.02	12.58 ± 0.02	-0.695 ± 0.023	0.156 ± 0.027	M8.5	—	30 ± 4	100 ± 15	—

Note. — See Table 3 for references and notes referred to in this table.

Table 12. Median Kinematics and Ages for the 20 pc sample of nearby Stars

SpT (1)	N[a] (2)	U (km/s) (3)	σ_U (km/s) (4)	V (km/s) (5)	σ_V (km/s) (6)	W (km/s) (7)	σ_W (km/s) (8)	V_{tan} (km/s) (9)	σ_{tan} (km/s) (10)	Age from V_{tan} (Gyr) (11)	N[b] (12)	V_{tot} (km/s) (13)	σ_{tot} (km/s) (14)	Age from V_{tot} (Gyr) (15)
F	139	-6	28	-8	18	-6	16	25	17	$1.7^{+0.6}_{-0.5}$	139	34	19	$1.2^{+0.5}_{-0.4}$
G	221	-16	38	-15	29	-5	21	32	27	$7.3^{+2.5}_{-2.0}$	221	40	30	$5.4^{+1.9}_{-1.5}$
K	308	-13	42	-20	30	-8	18	35	28	$7.8^{+2.6}_{-2.2}$	308	46	30	$5.2^{+1.8}_{-1.5}$
M0-M6	60	-8	45	-14	22	-7	21	32	30	$9.5^{+3.2}_{-2.6}$	60	38	31	$6.0^{+2.0}_{-1.7}$
M7-M9	93	-6	26	-14	20	-7	20	29	24	$5.0^{+1.7}_{-1.4}$	81	28	21	$1.7^{+0.6}_{-0.5}$
L0-L9	114	-8	28	-15	23	-5	15	27	26	$6.6^{+2.2}_{-1.8}$	168	25	24	$2.6^{+0.9}_{-0.7}$
T0-T8	70	-8	33	-12	21	-8	16	31	24	$4.6^{+1.6}_{-1.3}$	35	23	23	$2.2^{+0.8}_{-0.7}$

[a]The number of objects used to calculate median V_{tan} values.

[b]The number of objects used to calculate median V_{tot} values and thus used in the U,V,W analysis.

Note. — Kinematic data for F,G,K, and early M stars gathered from the Soubiran et al. (2003), Kharchenko et al. (2004) and Nordström et al. (2004) catalogues. We restricted to distances < 20 pc and proper motions > 20 mas/yr for comparison with our 20 pc ultracool dwarf sample.