CARMENES (Calar Alto high-Resolution search for M dwarfs with Exoearths with Near-infrared and optical Échelle Spectrographs) is the future exoplanet hunter for the 3.5-m Calar Alto telescope. Its first light is expected in early 2014. For a sample of 312 M-type stars, we derive spectral types by comparing their low-resolution spectra with those of standard stars acquired during the same observing runs. This study allows us to complete the CARMENCITA (CARMENES Cool star Information and daTa Archive) database, which is the most comprehensive catalogue on M dwarfs ever built. This database comprises the over 1200 brightest, latest M dwarfs in the solar neighbourhood. Among them, we will choose carefully the 300 most promising candidates that will be surveyed for low-mass planet companions by means of the analysis of high accuracy radial velocity measurements. Our URL: http://carmenes.caha.es/.

Observations • From November 2011 to March 2012, we conducted an observing program on a sample of 312 sources, mostly from Lépine & Gaidos (2011). They were selected as possible entries for the final release of the CARMENES input catalogue. Their long-slit low-resolution (about 4 Å) spectra were taken with the Calar Alto Faint Object Spectrograph (CAFOS) mounted on the 2.2 m telescope of the German-Spanish Calar Alto Observatory (http://www.caha.es/, Almeria, Spain).

Stellar library • During these runs, we also included around 50 standard stars whose spectral types range from K5 to M7 for both dwarf and giant classes. By comparing with the archive of M-type star spectra from the Palomar/MSU survey (Reid et al. 1995; Hawley et al. 1996), we only retained those whose spectra are the most representative of one given spectral type in order to create our own library of standard stars.

Classification • The spectral characterisation of every target relies on the comparative analysis of the full spectral range of its flux-calibrated spectrum, with those of our standards. By means of a least-square minimisation technique, we look for best matches (see Figure). We then performed its spectral typing (see Table) with an accuracy of about 1 dex. We also are deriving the typical spectroscopic indices that will enable us to classify all targets by linearly interpolating the relations between the various sideband ratios and spectral types.

CARMENES input catalogue • We are including the parameters derived from our data in the CARMENCITA database, which will be the centrepiece for choosing the 300 most promising planet candidates. The latter will be surveyed during a five-year survey with the CARMENES spectrograph. We expect to detect super-Earths of 5 Mₜₜ or less, some of which may be in the habitable zone or transiting.