Ultracold Interactions between Li Feshbach molecules and Yb atoms ALEXANDER KHRAMOV, ANDERS HANSEN, ALAN JAMISON, WILLIAM DOWD, VLADYSLAV IVANOV, SUBHADEEP GUPTA, University of Washington — We report on collisional studies in an ultracold three-component system of $^{174}$Yb and two spin states of $^6$Li with tunable interactions. The Li-Li s-wave scattering length can be varied through a Feshbach resonance at 834 G. We study the effect of the non-resonant Yb cloud on the formation rate and stability of Li Feshbach dimers and compare to theoretical prediction. We discuss the potential usefulness of a third non-resonant component for the efficient production and cooling of Feshbach molecules.