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Toward Triplet Ground State LiNa Molecules ALAN JAMISON, TIMUR RVACHOV, LI JING, YIJUN JIANG, MARTIN ZWIERLEIN, WOLFGANG KETTERLE, Massachusetts Inst of Tech-MIT — We present progress toward creation of ultracold ground-state triplet LiNa molecules. This molecule is expected to have a long lifetime in the triplet ground state due to its fermionic nature, large rotational constant, and weak spin-orbit coupling. The triplet state has both electric and magnetic dipole moments, affording unique opportunities in quantum simulation and ultracold chemistry. Our progress includes the first observation of triplet excited states in this molecule, achieved through photoassociation of ultracold mixtures of 6-Li and Na. We compare experimental results to a variety of near-dissociation expansions as well as ab initio potentials.

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