

Abstract Submitted
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Direct production of ultracold rovibronic ground state LiRb molecules through photoassociation and spontaneous decay IAN STEVENSON, DAVID BLASING, DANIEL ELLIOTT, YONG CHEN, Purdue University — We report a newly observed photoassociation resonance in ${}^7\text{Li}-{}^{85}\text{Rb}$, a mixed $2(1) - 4(1)$ excited state, that spontaneously decays to the rovibronic ground state. This resonance between ultracold Li and Rb is the strongest ground state molecule-forming photoassociation line observed in LiRb, and forms deeply bound $X\ ^1\Sigma^+$ molecules in large numbers. The production rate of the $v = 0$ vibrational state is $\sim 4 \times 10^3$ molecules/s.

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