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Ultracold chemistry with ground-state KRb molecules B. NEYENHUIS, S. OSPELKAUS, K.-K. NI, D. WANG, M.H.G. DE MIRANDA, G. QUEMENER, J.L. BOHN, D.S. JIN, J. YE, JILA, National Institute of Standards and Technology and University of Colorado Department of Physics — We prepare a near-quantum-degenerate gas of fermionic KRb molecules, with all the molecules in the absolute lowest energy state. We observe atom-exchange chemical reactions in a regime where the reaction rates are determined by the quantum statistics of the molecules, single partial wave scattering, and quantum threshold laws [1].

[1] S. Ospelkaus, K.-K. Ni, D. Wang, M. H. G. de Miranda, B. Neyenhuis, G. Quémener, P. S. Julienne, J. L. Bohn, D. S. Jin, J. Ye, Quantum-State Controlled Chemical Reactions of Ultracold KRb Molecules, *Science* (in press).

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