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Jesus A DeLoera, Yvonne Kemper and **Steven Klee***, Department of Mathematics, One Shields Avenue, University of California, Davis, CA 95616. *h-vectors of small matroid complexes.*

Stanley conjectured in 1977 that the h -vector of a matroid simplicial complex is a pure O -sequence. We give simple constructive proofs that the conjecture is true for matroids of rank less than or equal to 3, and corank 2. We also verify that Stanley's conjecture holds for all matroids on at most nine elements. (Received September 15, 2011)