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Superconductivity in layered pnictides $BaIr_2P_2$ and $BaRh_2P_2$ DAIGOROU HIRAI, TOMOHIRO TAKAYAMA, Dept. of Advanced Materials, Univ. of Tokyo, RYUJI HIGASHINAKA, HIROKO ARUGA-KATORI, Riken, HI-DENORI TAKAGI, Dept. of Advanced Materials, Univ. of Tokyo — The exploration of new superconductors, triggered by the discovery of LaFeAs(O,F), has concentrated mostly on Fe-based pnictides. A variety of non-Fe pnictides, isostructural to Fe pnictide superconductors, have been known for a long time but not yet fully explored in terms of possible superconductivity. Further exploration of non-Fe pnitide superconductors is important for understanding the key factors in realizing the high T_c in the Fe pnictides. We report new Ir and Rh pnictide superconductors, isostructural to BaFe₂As₂, BaRh₂P₂ and BaIr₂P₂, with $T_c = 1.0$ and 2.1 K respectively. This discovery demonstrates the presence of superconductivity over a surprisingly broad range of transition metal compounds with ThCr₂Si₂-type structure from Fe to Ir.

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