

Abstract

SELECTIVE HYDROGENATION CATALYST AND METHODS OF MAKING AND USING SAME

A composition comprising a supported hydrogenation catalyst comprising palladium and an organophosphorous compound, the supported hydrogenation catalyst being capable of selectively hydrogenating highly unsaturated hydrocarbons to unsaturated hydrocarbons. A method of making a selective hydrogenation catalyst comprising contacting a support with a palladium-containing compound to form a palladium supported composition, contacting the palladium supported composition with an organophosphorous compound to form a catalyst precursor, and reducing the catalyst precursor to form the catalyst. A method of selectively hydrogenating highly unsaturated hydrocarbons to an unsaturated hydrocarbon enriched composition comprising contacting a supported catalyst comprising palladium and an organophosphorous compound with a feed comprising highly unsaturated hydrocarbon under conditions suitable for hydrogenating at least a portion of the highly unsaturated hydrocarbon feed to form the unsaturated hydrocarbon enriched composition.

Fig. 1