

Ternary hydrides

Hydrides, characterized by the presence of one or more hydridic hydrogen (H^-) bound to a more electropositive element or group, exhibit intriguing properties and functionalities and have been investigated for hydrogen/thermal energy storage, batteries, superconduction, and fuel production. These potential applications place hydrides at the forefront of energy and materials research.

Hydrides are found in the forms of molecules, clusters, surface species and bulk-phase materials. Our research interests are mainly on surface and bulk-phase hydrides. In this talk, we will brief the synthesis and structure of some ternary hydrides made of transition metal and alkali or alkaline earth, e. g., Li_4FeH_6 , Li_2PdH_2 , and discuss the unique properties they have for mediating chemical transformation.