

Biphenyl based Liquid Organic Hydrogen Carriers : Hydrogen Storage Properties

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To realize a hydrogen-based energy system, innovative technologies associated with hydrogen production, storage, and utilization should be developed. Among these, the development of efficient hydrogen storage materials is one of the biggest technical challenges for achieving “hydrogen economy”. It is thus necessary to explore a safe and large-scale hydrogen storage method for practical applications. In this context, liquid organic hydrogen carriers (LOHCs) have been studied because LOHCs can potentially provide economically viable transportability using existing infrastructure. We present here on biphenyl-based hydrogen storage materials for reversible hydrogen energy systems applicable to fuel cell technologies.

Keywords: biphenyl, catalyst, LOHCs, Hydrogenation