Towards a methanol economy based on homogeneous catalysis: methanol to H2 and CO2 to methanol

The possibility to implement both the exhaustive dehydrogenation of aqueous methanol to hydrogen and CO2 and the reverse reaction, the hydrogenation of CO2 to methanol and water, may pave the way to a methanol based economy as part of a promising renewable energy system. Recently, homogeneous catalytic systems have been reported which are able to promote either one or the other of the two reactions under mild conditions. Here, we review and discuss these developments.

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