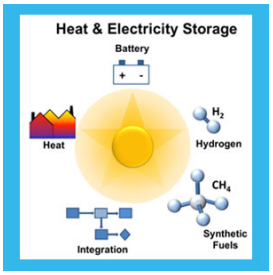

Contribution ID: **17** Type: **not specified**

Compositional dependence of CuAu alloy nano-particles towards Electro-chemical reduction of CO2

Tuesday 4 November 2014 12:00 (1h 15m)

The efficient conversion of CO2 into hydrocarbon fuels has attracted great attention in recent years. Our present work relates to the optimization of Cu:Au catalyst for the electro-reduction of CO2 in aqueous media. We synthesized various compositions of CuAu alloy nano-particles on vulcan carbon support by means of a single-step boro-hydride reduction process. The structure, composition and the electrochemical activity of these nano-particles with regard to the CO2 electro-reduction were studied by a combination of microscopic/spectroscopic methods (Transmission Electron Microscopy, Energy Dispersive X-ray analysis, X-ray Diffraction, X-ray Photoelectron Spectroscopy) and electrochemical (cyclic voltammetry, polarization, chronoamperometry) measurements.
The catalytic activity of CuAu alloy compositions towards CO2 reduction is found to be strongly dependent on the particular Au content. The highest catalytic activity was observed for 65 at. % Au containing catalyst.

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Session Classification: Meet and Eat, Poster session