Substrate Size-Selective Catalysis with Zeolite-Encapsulated Gold Nanoparticles

The Dark Crystal: A hybrid material is reported that is comprised of 1-2 nm sized gold nanoparticles, accessible only through zeolite micropores in a silicalite-1 crystal, as shown by three-dimensional TEM tomography (see picture). Calcination experiments indicate that the embedded nanoparticles are highly stable towards sintering.

General information
Publication status: Published
Organisations: Experimental Surface and Nanomaterials Physics, Department of Physics, Sustainable and Green Chemistry, Department of Chemistry, CHEC Research Centre, Department of Chemical and Biochemical Engineering, Administration
Pages: 3504-3507
Publication date: 2010
Peer-reviewed: Yes

Publication information
Volume: 49
Issue number: 20
ISSN (Print): 1433-7851
Ratings:
BFI (2010): BFI-level 2
Scopus rating (2010): SJR 5.921 SNIP 2.303
Web of Science (2010): Impact factor 12.73
Web of Science (2010): Indexed yes
Original language: English
Keywords: zeolites, oxidation, gold, nanoparticles, mesoporous materials
DOIs:
10.1002/anie.200906977
Source: orbit
Source-ID: 263351
Research output: Contribution to journal › Journal article – Annual report year: 2010 › Research › peer-review