Polyacrylate-assisted synthesis of stable copper nanoparticles and copper(I) oxide nanocubes with high catalytic efficiency

Robert Prucek,*^{*a*} Libor Kvítek,^{*a*} Aleš Panáček,^{*a*} Lenka Vančurová,^{*a*} Jana Soukupová,^{*a*} Dalibor Jančík,^{*b*} and Radek Zbořil,^{*ab*}

^a Department of Physical Chemistry, Faculty of Science, Palacky University, 17 Listopadu 12, Olomouc, 771 46, Czech Republic. Fax: +420 5856 4425; Tel: +420 5856 4427; E-mail: robert.prucek@upol.cz

^b Centre for Nanomaterial Research, Palacky University, Slechtitelu 11, Olomouc, 783 71, Czech Republic.

Supporting Information

Figure S1

XRD pattern of Cu nanoparticles (sample was taken 10 min after their preparation).



Figure S2

The TEM images of the particular copper(I) oxide nanocube were captured at the tilts (A) - 40° , (B) 0° and (C) 40° . The sample was tilted in X-axis direction in the electron transmission microscope.



Figure S3

(A) The TEM image of the Cu nanoparticles after catalytic reaction. Inset is SAED pattern which consists of rings that could be indexed to face-center-cubic Cu.

(B) Comparison of obtained SAED pattern with reference entry.





100