

Graphene Nanosheets Supporting Ru Nanoparticles with Controlled Nanoarchitectures Form a High-Performance Catalyst for CO_x-Free Hydrogen Production from Ammonia

Gang Li,^{a,b} Hiroki Nagasawa,^b Masakoto Kanezashi,^b Tomohisa Yoshioka,^b and
Toshinori Tsuru^{b*}

^aSchool of Light Industry & Food Science, South China University of Technology,
No. 381 Wushan Road, Guangzhou, China

^bDepartment of Chemical Engineering, Hiroshima University, 1-4-1 Kagamiyama,
Higashi-Hiroshima, Japan

*E-mail: tsuru@hiroshima-u.ac.jp

Tel.: +81 82 424 7714

Fax: +81 82 424 5494

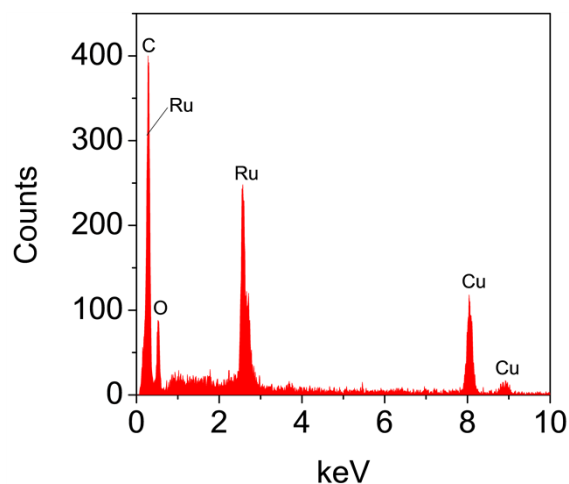


Fig. S1. EDX analysis of CS-Ru/graphene. The Cu element was from the Cu grid used for sample preparation.

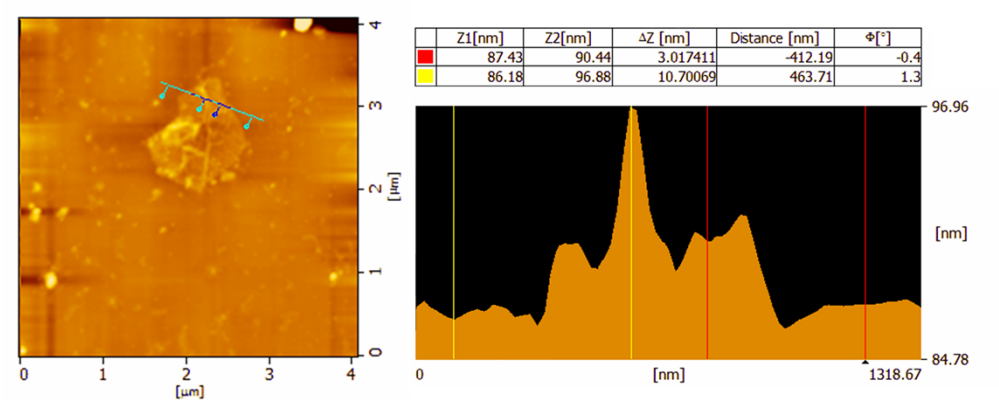


Figure S2. AFM observation of CS-Ru/graphene.

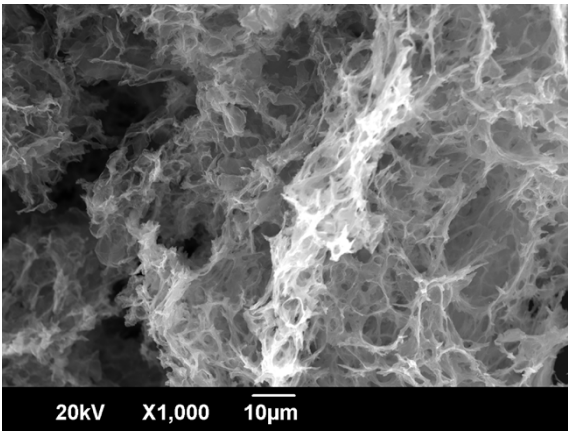


Fig. S3. SEM image of CS-Ru/graphene.

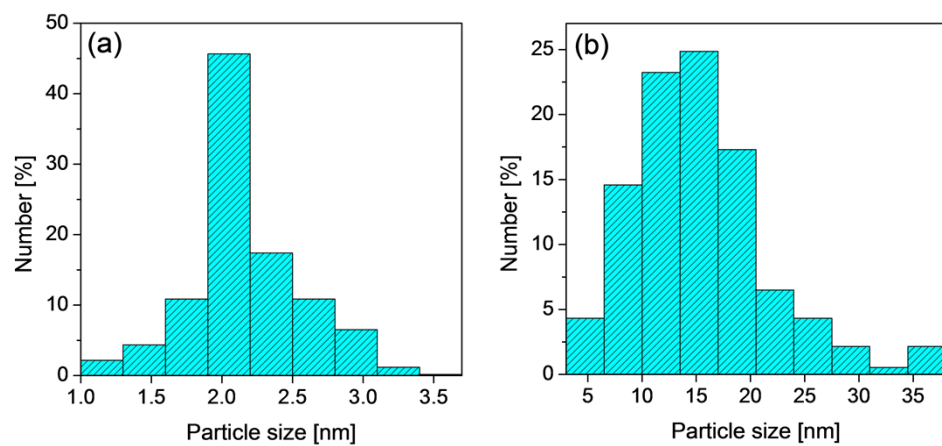


Fig. S4. Ru particle size distributions in the CS-Ru/graphene (a) and SS-Ru/graphene (b).

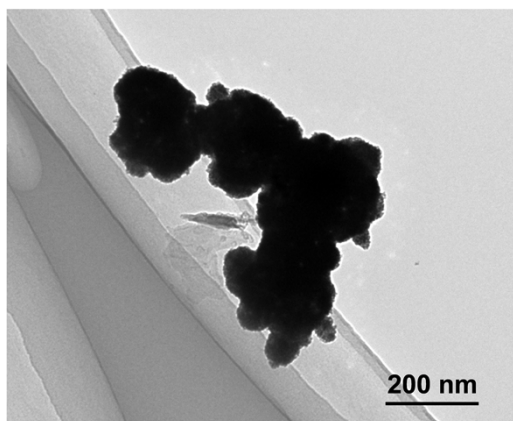


Fig. S5. TEM image of Ru particles prepared in the absence of graphene oxide in the synthesis solution.

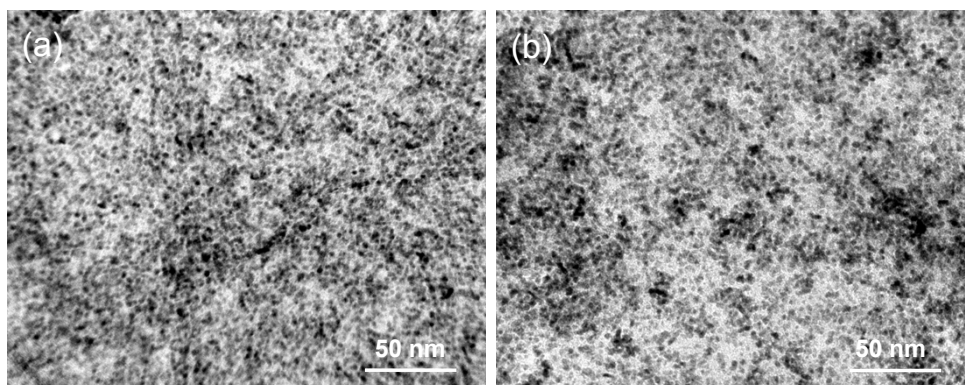


Fig. S6. TEM images of CS-Ru/graphene before (a) and after (b) sonication treatment.