

## Electronic Supplementary Information

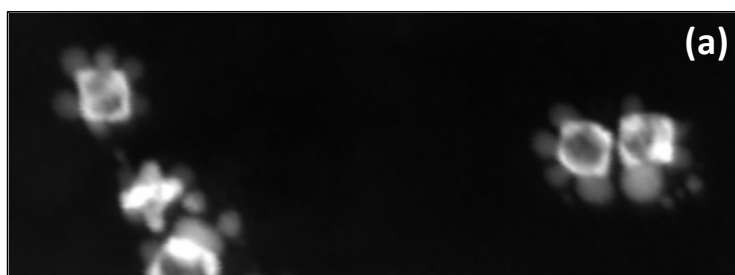
### **Bimetallic Ag-hollow Pt heterodimers *via* inside-out migration of Ag in core-shell Ag-Pt nanoparticles at elevated temperature**

Hui Liu<sup>†‡</sup> and Jun Yang<sup>†,\*</sup>

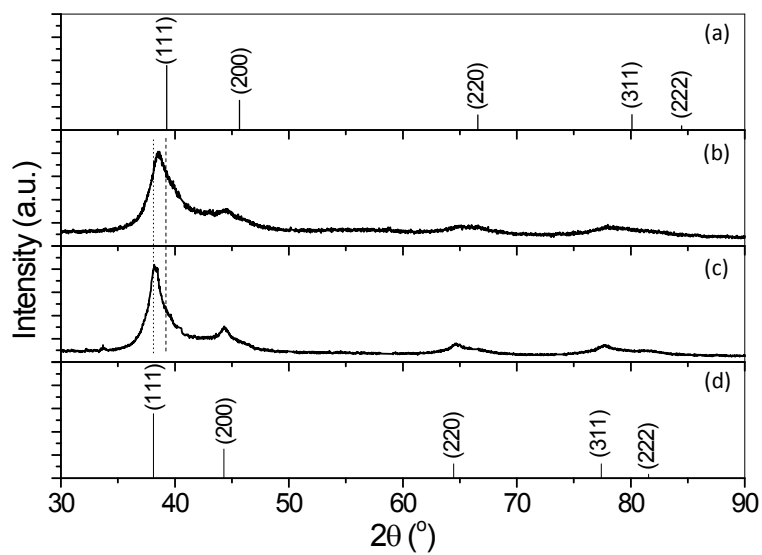
<sup>†</sup>State Key Laboratory of Multiphase Complex Systems, Institute of Process Engineering, Chinese Academy of Sciences, Beijing, China 100190. Fax: 86-10-8254 4915; Tel: 86-10-8254 4915; E-mail: [jyang@mail.ipe.ac.cn](mailto:jyang@mail.ipe.ac.cn)

<sup>‡</sup>University of Chinese Academy of Sciences, No. 19A Yuquan Road, Beijing, China 100190

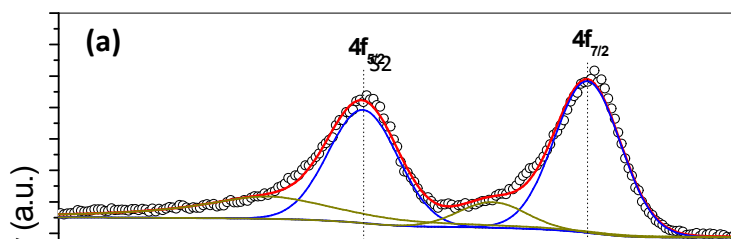
Financial support from the 100 Talents Program of the Chinese Academy of Sciences, National Natural Science Foundation of China (No.: 21173226, 21376247), and State Key Laboratory of Multiphase Complex Systems, Institute of Process Engineering, Chinese Academy of Sciences (MPCS-2012-A-11, MPCS-2011-D-08, MPCS-2010-C-02) is gratefully acknowledged.



**Fig. S1** STEM images (a,b) of core-shell Ag-Pt system obtained after heating treatment for 40 h (a) and 60 h (b), respectively. The evolution of Ag particles could be identified by the reduction of Ag domain numbers on the surface of Pt shells.



**Fig. S2** XRD patterns of (a) Pt reference (JCPDS Card File 882343), (b) core-shell Ag-Pt nanoparticles, (c) bimetallic Ag-hPt heterodimers, and (d) Ag reference (JCPDS Card File 893722).



**Fig. S3** 4f XPS spectra of Pt in (a) core-shell Ag-Pt nanoparticles and (b) bimetallic Ag-hPt heterodimers.