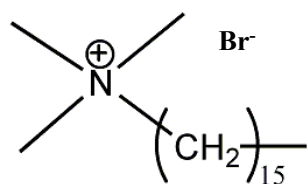


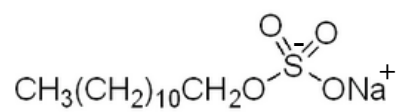
**Controlled Synthesis of Gold Nanorings with Structural Defects
Assisted by Elastic Induction of the Mixed Surfactants**

Han Jia,* Hongtao Zhou,* Cunqi Jia, Ping Zeng, Fulei Zhang, and Mengke Xie

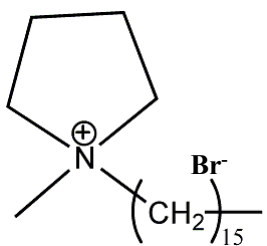
*College of Petroleum Engineering, China University of Petroleum (East China),
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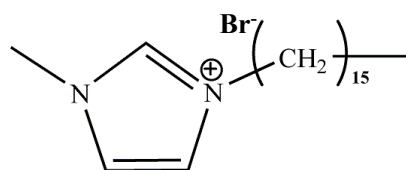
a: CTAB



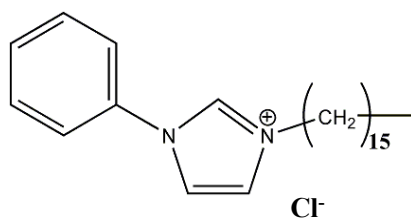
b: SDS



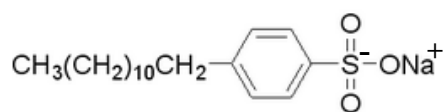
c: C₁₆MPB



d: C₁₆mimBr



e: BHDC



f: SDBS

Figure S1. Molecular structures of the six capping agents.

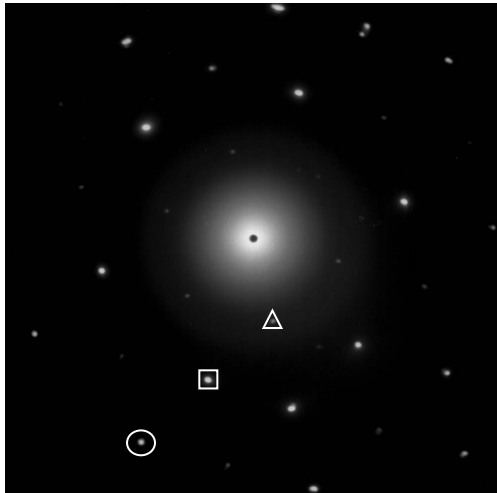


Figure S2. The corresponding electron diffraction pattern of a single gold nanoring. The strongest spots (square) could be indexed to the allowed $\{220\}$ reflection, the outer spots (circle) with the weaker intensity could be assigned to the allowed $\{422\}$ reflection, and the inner spots (triangle) with the weakest intensity corresponded to the formally forbidden $(1/3)\{422\}$ reflection.

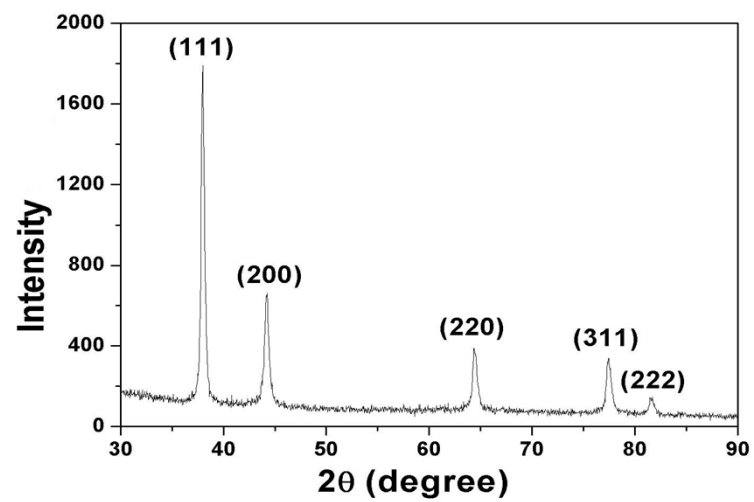


Figure S3. XRD patterns of the gold nanorings.

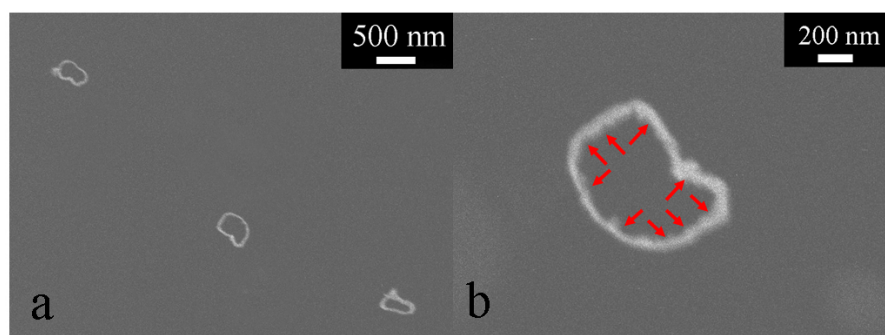


Figure S4 SEM images of gold nanorings formed in the presence of CTAB (0.6 mM) and SDS (0.4 mM).

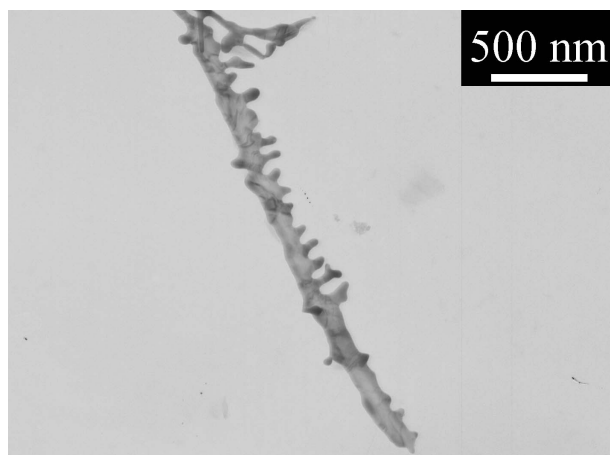


Fig. S5 TEM images of gold nanocombs formed in the presence of CTAB (3 mM) and SDS (2 mM).