

Supporting information for

**Grafting Poly(4-vinylpyridine) onto Gold Nanorods toward Functional Core-Shell
Plasmonic Nanostructures**

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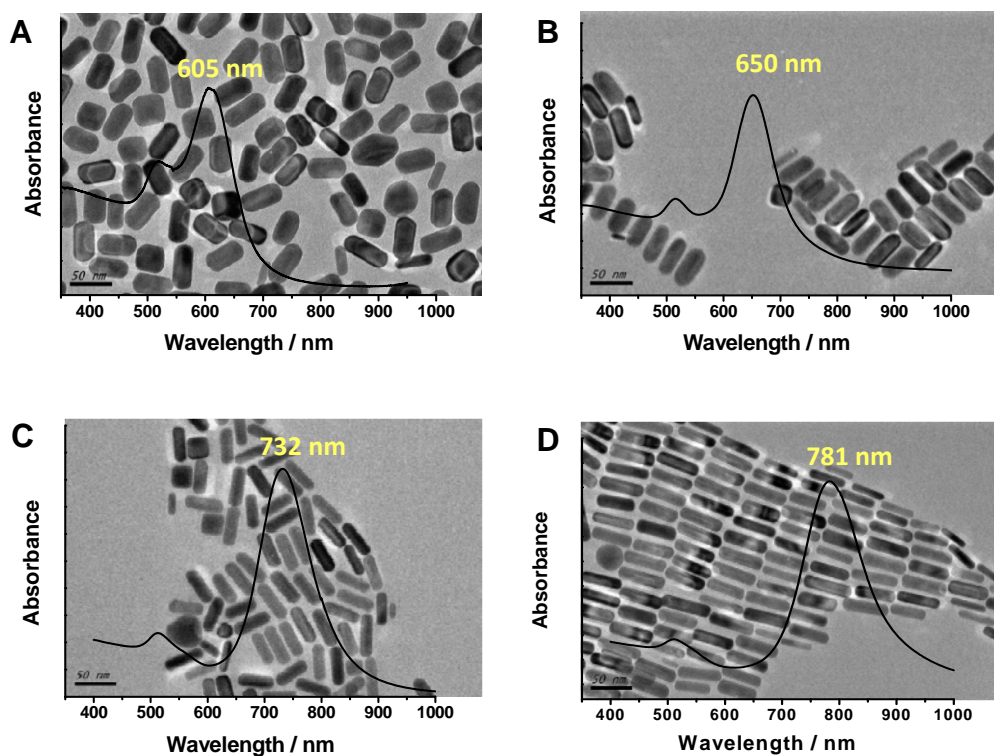


Figure S1. TEM images and UV-vis profiles of AuNRs synthesized by a seed-mediated growth method with adjustable aspect ratios of (A) 1.8, (B) 2.3, (C) 3.2 and (D) 4.0. The position of the longitude SPR mode's peak is marked in the figures.

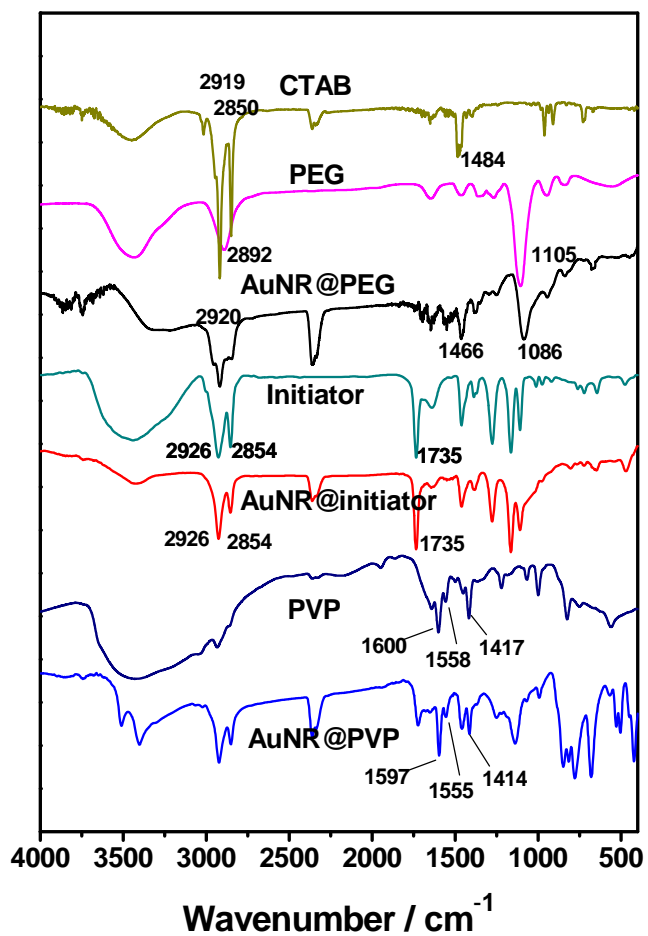


Figure S2. FT-IR spectra of pure CTAB, pure PEG, AuNR@PEG (containing CTAB), pure disulfide initiator, AuNR@initiator, pure PVP and AuNR@PVP samples (from up to down). The peaks around 2300-2400 in some of these samples are due to the absorbance of CO₂ in air.

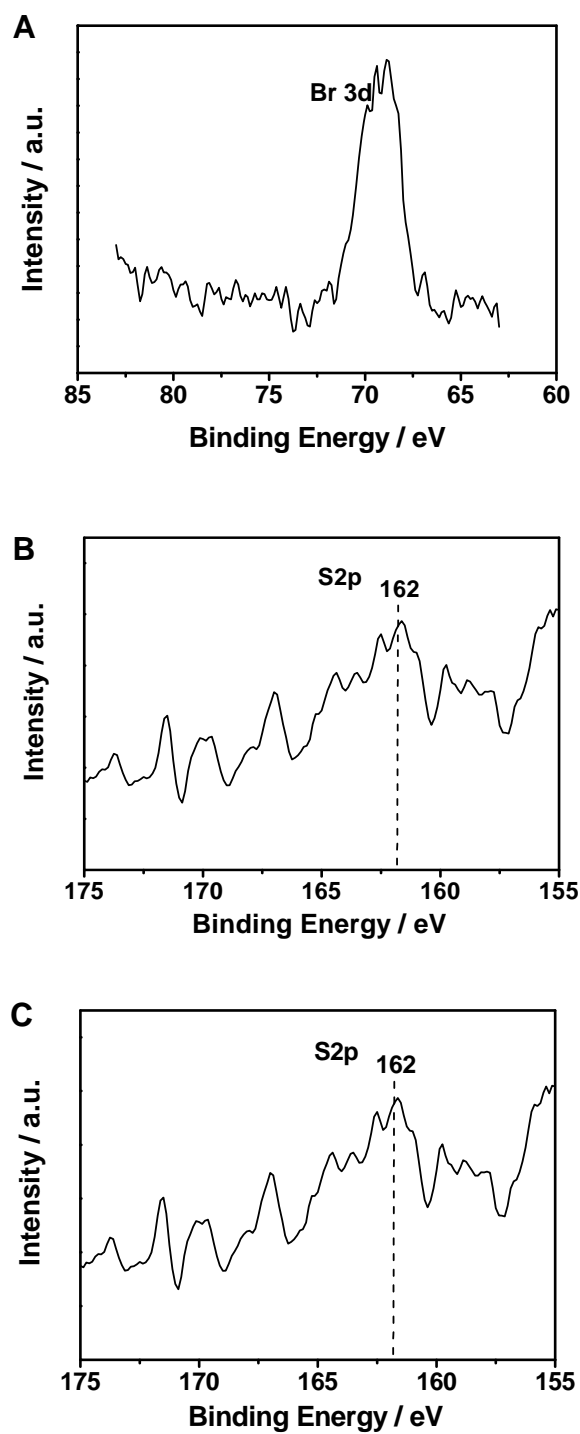


Figure S3. XPS spectra of Br_{3d} of AuNR@PEG (A) and AuNR@initiator (B), and S_{2p} of AuNR@initiator (C).