SUPPLEMENTARY INFORMATION

1. The determination of size of gold nanostars and length of branches. The size of gold nanostar is 69.57±6.08nm (N=142 nanoparticles) and the length of branches is 12.96±4.44nm (N=609 branches).

Fig. S1 a) TEM images of gold nanostars b) histogram of the size of gold nanostars c) histogram of the length of branches of gold nanostars