## **Supporting Information**

## Chai et al. 10.1073/pnas.1116099108

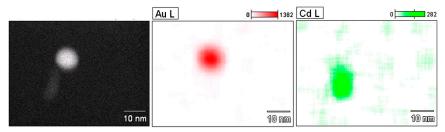


Fig. S1. STEM image and energy-dispersive X-ray spectroscopy (EDX) elemental mapping of a SPBCL-defined AuNP bound to CdSe/ZnS QD to mark the interaction of biotin and immobilized streptavidin. The red dot denotes the SPBCL-defined AuNP, while the green rod denotes the QD label in EDX mapping.

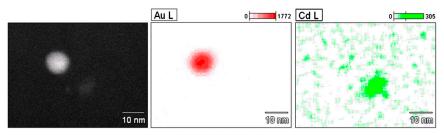


Fig. S2. STEM image and EDX map of a SPBCL-defined Au nanoparticle bound to an antigoat IgG (labeled with a 1.4 nm AuNP), which was in turn bound to a goat-derived  $F_{ab}$  antibody (labeled by a CdSe/ZnS quantum dot). The red dot in the EDX map represents the SPBCL-defined AuNP, while the green rod represents the QD label in EDX mapping. Due to its small size, the small AuNP conjugated to the antigoat IgG could not be observed in the EDX map.