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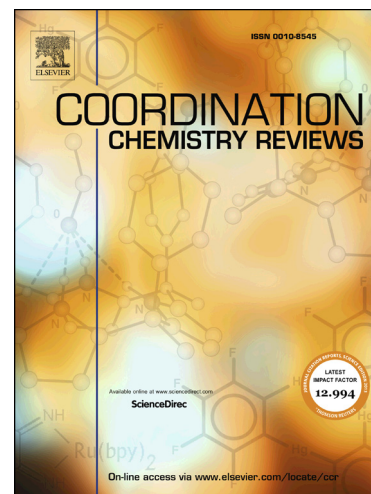
Aihua Liu, Guoqing Wang, Fei Wang, Yang Zhang

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Gold nanostructures with near-infrared plasmonic resonance: synthesis and surface functionalization

Aihua Liu,<sup>a, c, d, 1\*</sup> Guoqing Wang<sup>1, b</sup>, Fei Wang<sup>a</sup>, and Yang Zhang<sup>a, d</sup>

<sup>a</sup>Institute for Biosensing, and College of Chemistry and Chemical Engineering, Qingdao University, 308 Ningxia Road, Qingdao 266071, China

<sup>b</sup>Bioengineering Laboratory, RIKEN, Hirosawa 2-1, Wako-shi, Saitama 351-0198, Japan

<sup>c</sup>School of Life Sciences, Qingdao University, 308 Ningxia Road, Qingdao 266071, China

<sup>d</sup> College of Medicine, Qingdao University, Qingdao 266021, China

<sup>1</sup>These authors contributed equally to this work.

\*Corresponding author.

E-mail address: liuah@qdu.edu.cn (A.L)

Phone: +8653280662758

## Abstract

A systematic and comprehensive survey on the preparation and functionalization approaches for a wide range of gold nanostructures that exhibit surface plasmon resonance (SPR) in the near-infrared (NIR) region is presented. This review is focused on the efficient synthetic strategies for precise production of gold nanostructures with NIR plasmonic resonance, and effects of size, shapes and composition on their optical absorption properties. Additionally, the surface functionalization of gold nanostructures is summarized. This review provides suggestions for guiding controllable synthesis of monodisperse, multifunctional plasmonic gold nanostructures in a simple and effective way.

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