



Article

Controlled Synthesis of Platinum and Silver Nanoparticles Using Multivalent Ligands

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Characterization of flexible amine-functionalized multivalent ligands

Divalent Amine:

NMR-¹H (400 MHz, CDCl₃) δ : 0.88 (t, 3H, J = 6.7 Hz), 1.22 (s, 4H), 1.29 (s, 14H), 1.37–1.44 (m, 1H), 2.66–2.75 (m, 4H).

NMR-¹³C (100 MHz, CDCl₃) δ : 14.0, 22.5, 26.9, 29.2, 29.5, 29.7, 29.9, 31.8, 43.6 (2C), 43.7.

Trivalent Amine:

NMR-¹H (400 MHz, CDCl₃) δ : 0.88 (t, 3H, J = 7.0 Hz), 1.20 (s, brs, 10H), 1.32 (brs, 10H), 2.58 (s, 6H).

NMR-¹³C (100 MHz, CDCl₃) δ : 14.0, 22.5, 22.8, 29.2, 29.5, 30.6, 31.2, 31.7, 41.6, 44.7 (3C).

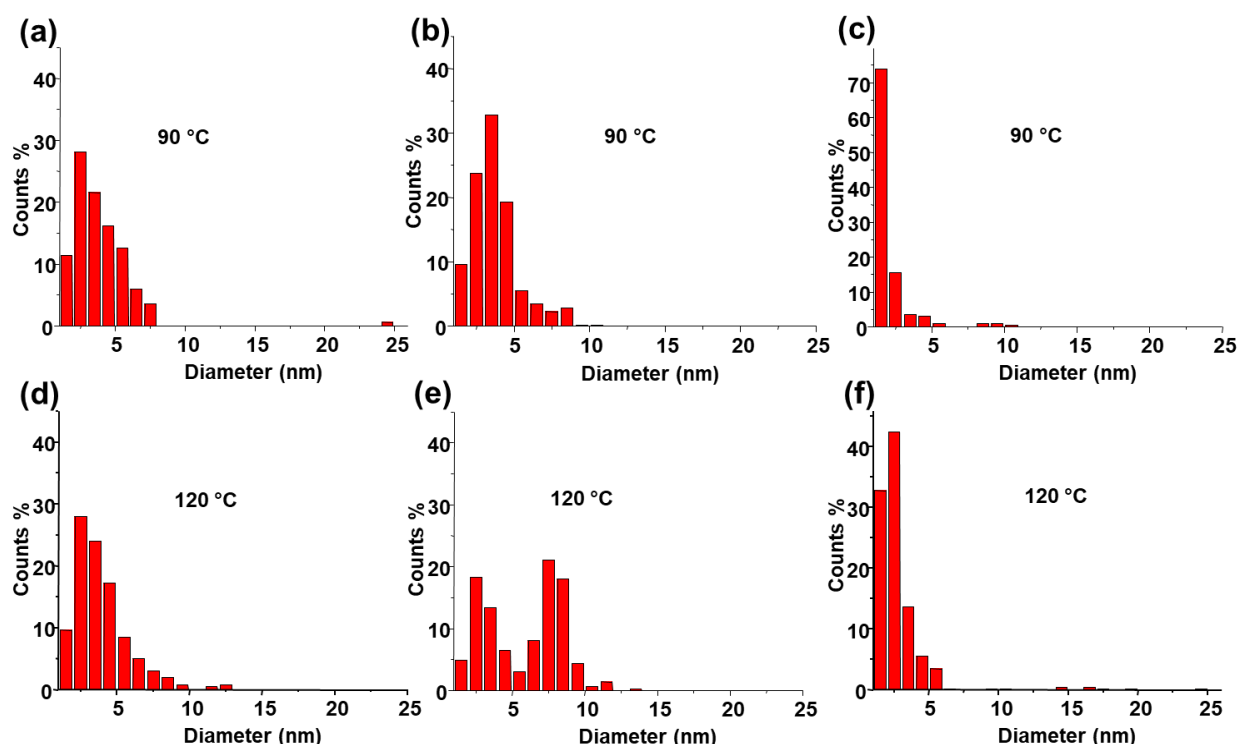


Figure S1. Histograms depict the size distribution of silver nanoparticles with monovalent ligands (M-AgNPs), silver nanoparticles with divalent ligands (D-AgNPs), and silver nanoparticles with trivalent ligands (T-AgNPs) at two different temperatures (90 °C (a-c) and 120 °C (d-f)), respectively.