

Self-Assembly of Platinum(II) Polypyridine Complexes with L-Valine Units: A Delicate Balance Between Pt \cdots Pt, π - π and Hydrogen-Bonding Interactions

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A series of platinum(II) polypyridine complexes with L-valine-containing ligands has been synthesized and characterized. In sharp contrast to the organic peptide-containing alkynes which only showed gelation with up to three valine units, a complex with an unsubstituted terpyridine and just one valine on the alkynyl ligand was found to display gelation properties in acetonitrile solution. Upon sol-gel transition, a color change from yellow to red could be observed, indicative of the presence of Pt \cdots Pt and π - π stacking interactions in driving metallogel formation. More interestingly, another series of L-valine-containing platinum(II) diimine complexes was found to aggregate at low temperatures, leading to supramolecular chirality. Their aggregation behaviors have been investigated by UV-vis, emission, circular dichroism and ^1H NMR spectroscopies, with their morphologies studied by electron microscopies.

1 C. Po, Z. Ke, A. Y.-Y. Tam, H.-F. Chow, V. W.-W. Yam, *Chem. Eur. J.*, **2013**, *19*, 15735.