



UNIVERSITÀ
DEGLI STUDI DI TRIESTE

Dipartimento di Scienze Chimiche e Farmaceutiche

AVVISO DI SEMINARIO

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**Multicomponent Self-Assembly
and Electron Rich Sensors**

**Martedì 22 novembre 2011 ore 15.30
AULA A1, Edificio C11, III piano**

Metal-ligand coordination driven self-assembly is an efficient technique for the bottom-up construction of discrete, well-defined nanoscale structures. The architectural advantage of the rigid square-planar coordination environment of Pd(II) and Pt(II) has long been utilized for this purpose. Two-component (one donor + one acceptor) self-assembly is a widely used protocol. Multicomponent self-assembly is unpredictable due to the possibility of formation of several products and entropically unfavourable nature. Can multicomponents be assembled to form a single discrete and defined structure without even using template? My presentation will address this question with several successful examples (Scheme-1). So far, this field is mostly restricted to the discovery of new and complex architectures with some exceptions. Functionalization of such assemblies is the challenging task to synthetic chemists. Incorporation of appropriate functional groups into the assemblies would be an appropriate way to make these assemblies functional for applications. I would like to present designed synthesis of a series of ethynyl or porphyrin functionalized π -electron rich nanoscopic fluorescent Pt(II)/Pd(II) cages having appropriate floor and roof to accommodate electron deficient nitroaromatics. Use of these cages towards the detection of trace amount of electron deficient nitroaromatics by fluorescence quenching in both solid state and solution phase would be discussed. Detection of trace amount of nitroaromatics is very important since they are the chemical constituents of many commercially available explosives.

Il Direttore
Prof. P Tecilla