

# Coinage metals trinuclear metallocycles: old and new aspects of this class of compounds

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Azoles such as imidazoles and pyrazoles are optimal bridging ligands to obtain C,N or N,N trinuclear coinage metals metallocycles. Since past decade till now, few worldwide research groups including us have focused their attention to their synthesis and characterization.[1] Moreover, the photophysical properties[2] the extended network of metallophilic bondings in the supramolecular structure and the pi-acid/pi-base chemistry[3] of these compounds directed the research to theoretical studies bringing to a better interpretation of the experimental behaviors.[4] Here we report the synthesis of new coinage metals metallocycles and their spectroscopic characterizations highlighting points of continuity with the previous analogs and new features for new perspective research lines. As in example, the 1-vinylimidazole resembles the acid-base chemistry of the 1-benzylimidazole gold(I) metallocycle, while substitution in position 4,5 of 1-benzylimidazole with electron-withdrawing group, do not allow the formation of metallocycles with the same synthetic route and mononuclear gold(I) derivatives have been obtained. The nature of the heterocycle and of the substituents, in addition to their position in the azolate ligand defines and tunes the properties of the final products.

## References:

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