

**SELF-ASSEMBLY IN WATER OF BULKY OCTAHEDRAL COORDINATION
COMPLEXES BASED ON RH(III) METAL CENTER**

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Abstract

Metal complexes able to self-assembly in water into chromonic-type liquid-crystalline phases are progressively attracting attention because of their unique features consisting in the combination of properties deriving from liquid crystals (self-ordering, ease of alignment, sensitivity to changing conditions and additives) coupled with the optical and electro-optical properties brought by the metal centre. [1,2]

In the last decade, rhodium (III) cyclometallated complexes were researched for their electrocatalytic activity, fluorescent properties and especially for medicinal applications as drug delivery and therapeutic agents. [3(a-d)] Therefore, supramolecular organized aqueous systems built up with these compounds should bring important developments in bio-related fields. Herein we report new Rh(III) cyclometallated complexes that show the ability to self-assemble into chromonic-like phases at relatively low concentration in water. Their supramolecular arrangements in mesophase will be proposed based on optical polarization microscopy (POM), X-ray diffraction studies on single crystals and Small Angle Neutron Scattering (SANS) measurements in the mesophase. The role of different molecular moieties will be discussed in the self-assembling with respect to previous reported structurally analogues Ir(III) complexes [1,2].

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References

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