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Rare Earth Corrosion Inhibitors using 4-(4'-Methylphenyl)-4-oxo-butanoic acid

Rare earth 4-(4'-methylpenyl)-4-oxo-butanoate, (L) complexes [RE(L)3(H2O)] (RE = Y, La, Ce, Nd, Ho, Er) have been prepared by metathesis reactions between the corresponding rare earth chloride and NaL to assess the potentiality as new corrosion inhibitors. The products were analysed by IR- and NMR-spectroscopy, elemental- and metal analysis and TGA measurements. The single crystal X-ray diffraction studies of [RE(L)3(H2O)] (RE = Ce, Nd) and [Ce(L)3(dmso)]
revealed a 1D carboxylate bridged polymeric structure in the solid state, featuring nine coordinate rare earth ions. Upon comparison with x-ray powder diffraction patterns of the bulk materials, all of the [RE(L)3(H2O)] complexes with the exception of RE = La are isomorphous, implying that no fundamental structural changes were detected from RE = Ce to RE = Er despite the lanthanoid contraction.

Keywords or phrases (comma separated)

Are you a student?

Yes

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No

Are you an ECR? (<5 yrs</br>since PhD/Masters)

No

What is your gender?

Male

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