

ABSTRACT

The present work has been undertaken to synthesize novel peroxo compounds of niobium and to investigate the catalytic activity of the synthesised peroxo compound.

The compounds $\text{Na}[\text{Nb}(\text{O}_2)_3(\text{gly})_2]$ (gly=glycine), $\text{Na}[\text{Nb}(\text{O}_2)_3(\text{arg})]$ (arg=arginine) and $\text{Na}[\text{Nb}(\text{O}_2)_3(\text{nia})]$ (nia=niacin) have been synthesised and characterised by elemental analysis, spectral analysis and physio-chemical analysis including thermal analysis.

The synthesised compounds efficiently catalysed the oxidation of organic sulphides, by hydrogen peroxide, to sulfoxide and sulfone, and by tert-butyl hydrogen peroxide, to sulfoxide selectively, under mild reaction conditions.