Synthesis and Spectroscopy of $LiClO_4$ Complexes of (–)-Sparteine, 2-Methyl- and 2-Oxosparteine, and 2-Cyano-2-methylsparteine

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Complexes formed between (–)-sparteine, 2-methyl- and 2-oxosparteine and 2-cyano-2-methylsparteine with lithium perchlorate ($LiClO_4$) were obtained in the solid state. The complexes, $C_{15}H_{26}N_2LiClO_4$, $C_{16}H_{28}N_2LiClO_4$, $C_{15}H_{24}N_2OLiClO_4$, and $C_{17}H_{27}N_3Li_2Cl_2O_8$ have been isolated and characterised by UV/vis, NMR, and IR, spectroscopy and by their mass spectra. Three of the four complexes present the 1:1 stoichiometry, while the 2-cyano-2-methylsparteine complex has the 1:2 stoichiometry.

Key words: Sparteine Derivatives, Lithium Complexes, UV/vis-NIR, NMR Spectra