in three of the equatorial CO ligands adopting bridging conformations.

Keywords: cobalt clusters; tridentate phosphine; single-crystal structure analysis

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Crystal structures of $Ln_5O_4[AsO_3]_2Cl$ (Ln = Pr, Sm) and $Ce_3O[AsO_3]_2Cl$. Hamdi Ben Yahia[a], Ute Ch. Rodewald[a], Rainer Pöttgen[a]. [a]*Institut für Anorganische und Analytische Chemie, Universität Münster, Corrensstrasse 30, D-48149 Münster, Germany* .
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The title compounds with structures isotopic to the $Nd_5O_4[AsO_3]_2Cl$ [1] and $Gd_3O[AsO_3]_2Cl$ [2] types have been synthesised. The crystal structures of $Pr_5O_4[AsO_3]_2Cl$, $Sm_5O_4[AsO_3]_2Cl$ and $Ce_3O[AsO_3]_2Cl$ were determined using single crystal data. The compounds $Ln_5O_4[AsO_3]_2Cl$ have monoclinic unit cell parameters: a = 12.493(3) Å, b = 5.5884(13) Å, c = 9.0776(19) Å, β = 116.610(14)° and a = 12.2528(26) Å, b = 5.6101(9) Å, c = 8.9059(20) Å, β = 115.945(16)° for the Pr and Sm compounds, respectively. Both crystallize with space group $C2/m$, Z = 2 whereas $Ce_3O[AsO_3]_2Cl$ crystallises in space group $P4_2nm$, Z = 4 with unit cell parameters a = 12.8590(6) Å, c = 5.5627(3) Å. The structure of $Ln_5O_4[AsO_3]_2Cl$ contains three crystallographically independent Ln^{3+} sites with 8, 7 and 8 coordinated Ln^{3+} atoms whereas the $Ce_3O[AsO_3]_2Cl$ structure contains only two Ce^{3+} sites with 6 and 8 coordinated cerium atoms. The common features to these structures are isolated pyramidal $[AsO_3]^{3-}$ anions with a stereochemically active non-bonding electron pair.

[1] Kang D.-H., Wontcheu J., Schleid Th., *Solid State Sci.* **2009**, 11, 299. [2] Kang D.-H., Komm Th., Schleid Th., *Z. Kristallogr. Suppl.* **2005**, 22, 157.

Keywords: lanthanoide oxide chloride oxoarsenate(III); crystal structure determination; single crystal diffraction