

# Die Kristallstruktur von $[\text{Me}_3\text{PN}(\text{H})\text{PMe}_3]_4\text{I}_{28}$ , einem Polyiodid mit $\text{I}_3^-$ -, $\text{I}_8^{2-}$ - und $\text{I}_{14}^{4-}$ -Ionen

Crystal Structure of  $[\text{Me}_3\text{PN}(\text{H})\text{PMe}_3]_4\text{I}_{28}$ , a Polyiodide with  $\text{I}_3^-$ ,  $\text{I}_8^{2-}$ , and  $\text{I}_{14}^{4-}$  Ions

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Polyiodide, Synthesis, Crystal Structure

Black-red single crystals of  $[\text{Me}_3\text{PN}(\text{H})\text{PMe}_3]_4\text{I}_{28}$  have been prepared by the reaction of  $[\text{Me}_3\text{PNPMe}_3]\text{I}$  with iodine in dichloromethane solution in the presence of  $\text{Me}_3\text{SiI}$  and traces of water. The polyiodide crystallizes triclinically in the space group  $\text{P}\bar{1}$  with two formula units per unit cell with the lattice dimensions  $a = 831.2(1)$ ,  $b = 1661.2(3)$ ,  $c = 1739.0(3)$  pm,  $\alpha = 87.26(1)^\circ$ ,  $\beta = 79.48(1)^\circ$ ,  $\gamma = 78.17(1)^\circ$ . The structure consists of  $[\text{Me}_3\text{PN}(\text{H})\text{PMe}_3]^{2+}$  ions, linear  $\text{I}_3^-$  ions, z-shaped  $\text{I}_8^{2-}$  ions, and zig-zag chains of  $\text{I}_{14}^{4-}$  ions, the terminal iodine atoms of which form  $\text{I}\cdots\text{H-N}$  hydrogen bridges to the cations.

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