Some Organic-Inorganic Hybrid Compounds Based on iso-Thiuronium Cations and Lead Halide Anions

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Z. Naturforsch. 56 b, 57–61 (2001); received September 11, 2000

Organic-Inorganic Hybrids, Low-Dimensional Semiconductors, Fluorescence

Using 1-chlorodecane (C_{10}H_{21}Cl), benzyl chloride (C_{6}H_{5}CH_{2}Cl), a,a'-dichloro-p-xylene (ClC_{6}H_{5}CH_{2}Cl), 4-phenylbenzyl chloride (C_{6}H_{5}C_{6}H_{4}CH_{2}Cl), 2-bromomethyl-naphthalene (C_{10}H_{7}CH_{2}Br), 4-bromomethyl-7-methoxycoumarin (C_{10}H_{7}O_{3}CH_{2}Br), 2-bromomethyl-anthraquinone (C_{14}H_{7}O_{2}CH_{2}Br), 9-chloromethyl-anthracene (C_{14}H_{6}CH_{2}Cl), thiourea and halides as starting materials, the organic-inorganic hybrid compounds \([\text{C}_{10}\text{H}_{21}\text{SC(NH}_{2}\text{)}_{2}]_{2}\text{PbI}_{4}, [\text{C}_{6}\text{H}_{5}\text{CH}_{2}\text{SC(NH}_{2}\text{)}_{2}]_{4}\text{Pb}_{3}\text{I}_{10}, [(\text{H}_{2}\text{N})_{2}\text{CSCH}_{2}\text{C}_{6}\text{H}_{5}\text{CH}_{2}\text{SC(NH}_{2}\text{)}_{2}]_{0.5}\text{PbI}_{3}, [\text{C}_{6}\text{H}_{5}\text{C}_{6}\text{H}_{4}\text{CH}_{2}\text{SC(NH}_{2}\text{)}_{2}]_{0.5}\text{PbI}_{3}, [\text{C}_{14}\text{H}_{7}\text{O}_{2}\text{CH}_{2}\text{SC(NH}_{2}\text{)}_{2}]_{3}\text{PbI}_{3}, [\text{C}_{4}\text{H}_{9}\text{CH}_{2}\text{SC(NH}_{2}\text{)}_{2}]_{2}\text{PbBr}_{4}\) were prepared and characterized analytically and spectroscopically.