

Polysulfonylamine, CV [1]

Die ersten N,N-disulfonylierten Sulfinensäureamide: Synthese und Kristallstrukturen von $RS(O)-N(SO_2Me)_2$ ($R = Me, CCl_3$)

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The First N,N-Disulfonylated Sulfinic Amides: Synthesis and Crystal Structures of $RS(O)-N(SO_2Me)_2$ ($R = Me, CCl_3$)

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N,N-Bis(organosulfonyl)sulfinamides, Synthesis, Crystal Structure, Long S(O)–N Bond

The novel sulfinamides $RS(O)-N(SO_2Me)_2$, where $R = Me$ (**1a**) or CCl_3 (**1b**), were obtained by treating the corresponding sulfinyl chlorides with $Me_3SiN(SO_2Me)_2$ or $AgN(SO_2Me)_2$, respectively. A presumed ionic 1:1 adduct of **1b** with 4-dimethylaminopyridine was isolated and analytically characterized. In the crystals of **1a** (monoclinic, space group $P2_1/n$) and **1b** (monoclinic, $P2_1/c$), the molecules feature approximately planar NS_3 moieties, unusually long S(O)–N bonds and, in the case of **1b**, an extremely long S(O)–C bond [for **1a** and **1b**, in order: sum of bond angles at nitrogen 359.5 and 357.1°, S(O)–N 178.2(2) and 173.6(2) pm, S(O)–C 178.8(2) and 194.1(2) pm]. In both molecular structures, an attractive S(O)⋯O 1,4-interaction leads to a 7.3° discrepancy in the S(O)–N–SO₂ angles. The crystal packing of **1a** displays a tape (double-chain) motif generated by two prominent intermolecular C–H⋯O interactions involving one MeSO₂ group and the sulfinyl oxygen atoms of two adjacent molecules, whereas in **1b** the molecules are associated into parallel chains via a bonding Cl⋯O(sulfonyl) interaction.

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