Tetra(alkynyl)silanes, a 3,6-Disila-triyne, a 3,6,9-Trisila-tetrayne, a 1,3,4,6-Tetrasiladiyne, and Bis(trimethylstannyl)ethyne. Molecular Structures and Solid-state NMR Studies

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Z. Naturforsch. **2010**, *65b,* 119 – 127; received November 27, 2009

The molecular structures of three alkynylsilanes, tetrakis(ethynyl-*p*-tolyl)silane, 3,3,6,6,-tetramethyl-3,6-disila-triyne, 3,3,6,6,9,9,-hexamethyl-3,6,9-trisila-tetrayne, and of bis(trimethylstannyl)-ethyne have been determined by X-ray diffraction. The same alkynylsilanes, and in addition 1,2-bis(trimethylsilylethynyl)-1,1,2,2-tetramethyldisliane, were studied by solid-state ^{13}C and ^{29}Si MAS NMR spectroscopy. The results of these measurements were compared with crystallographic evidence and also with relevant solution-state NMR data.

Key words: Alkynes, Silanes, Organotin Compounds, NMR, X-Ray