

Electronic supplementary information

USE OF TETRAKIS(2-ETHOXYETHOXY)SILANE FOR THE PREPARATION OF ETHYLALKOXYSILANES OF A SINGLE STRUCTURE BY THE ORGANOMAGNESIUM METHODS

S. N. Ardabevskaia,^{*a,b,c} S. A. Milenin,^{a,b,c} and A. M. Muzafarov^a

^a *Enikolopov Institute of Synthetic Polymeric Materials, Russian Academy of Sciences, ul. Profsoyuznaya 70, Moscow, 117393 Russia*

^b *Research Laboratory of New Silicone Materials and Technologies, Tula State Lev Tolstoy Pedagogical University, pr. Lenina 125, Tula, Tula Oblast, 300026 Russia*

^c *Center of National Technological Initiative, Bauman Moscow State Technical University, 2-ya Baumanskaya ul. 5, Moscow, 105005 Russia*

Compound 2. ¹H NMR (300 MHz, CDCl₃): δ 3.76–3.70 (m, 2H, O-CH₂-CH₃), 3.56–3.49 (m, 4H, O-C₂H₄-O), 1.20–1.14 (m, 3H, O-CH₂-CH₃), 0.95–0.90 (m, 9H, CH₂-CH₃), 0.62–0.54 (m, 6H, CH₂-CH₃) ppm.

Compound 3. ¹H NMR (300 MHz, CDCl₃): δ 3.84 (m, 4H, O-CH₂-CH₃), 3.56–3.49 (m, 8H, O-C₂H₄-O), 1.18 (m, 6H, O-CH₂-CH₃), 0.97 (m, 6H, CH₂-CH₃), 0.67–0.59 (m, 4H, CH₂-CH₃) ppm. ¹³C NMR (77.5 MHz, CDCl₃): δ 77.42, 77.00, 76.58, 71.82, 66.56, 62.12, 15.11, 6.27, 3.96 ppm. ²⁹Si NMR (59.6 MHz, CDCl₃): δ -3.69 ppm.

Compound 4. ¹H NMR (300 MHz, CDCl₃): δ 3.90 (m, 6H, O-CH₂-CH₃), 3.53 (m, 12H, O-C₂H₄-O), 1.19 (m, 9H, O-CH₂-CH₃), 0.99 (m, 3H, CH₂-CH₃), 0.69 (m, 2H, CH₂-CH₃) ppm.

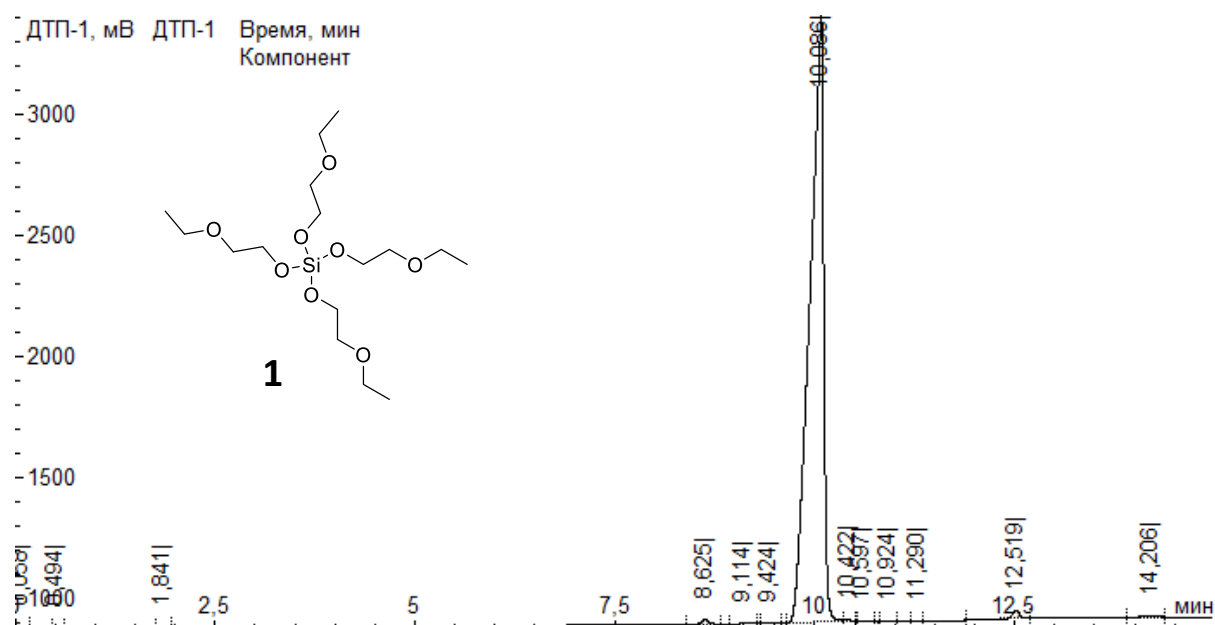


Figure S1. GLC curve of tetrakis(2-ethoxyethoxy)silane 1.

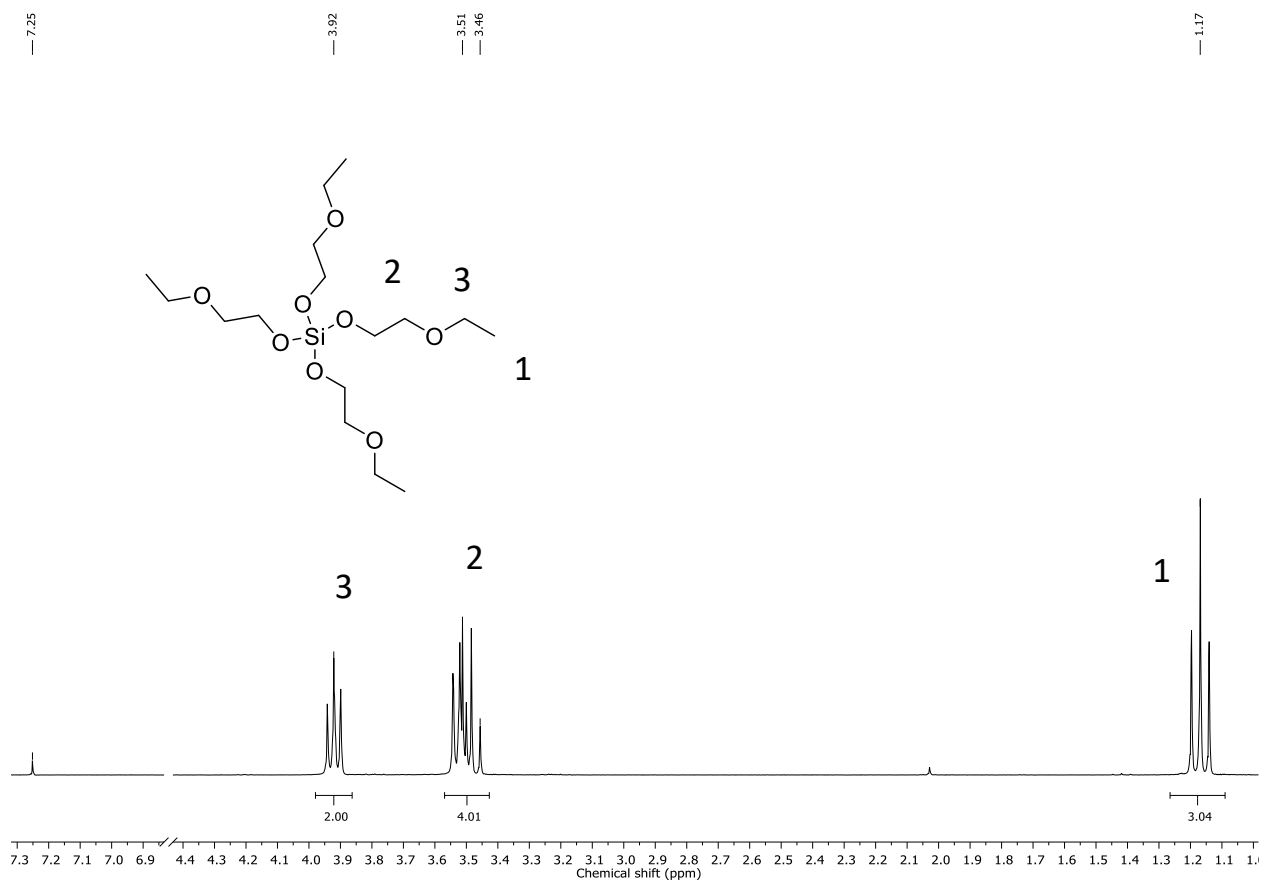


Figure S2. ¹H NMR spectrum of compound 1.

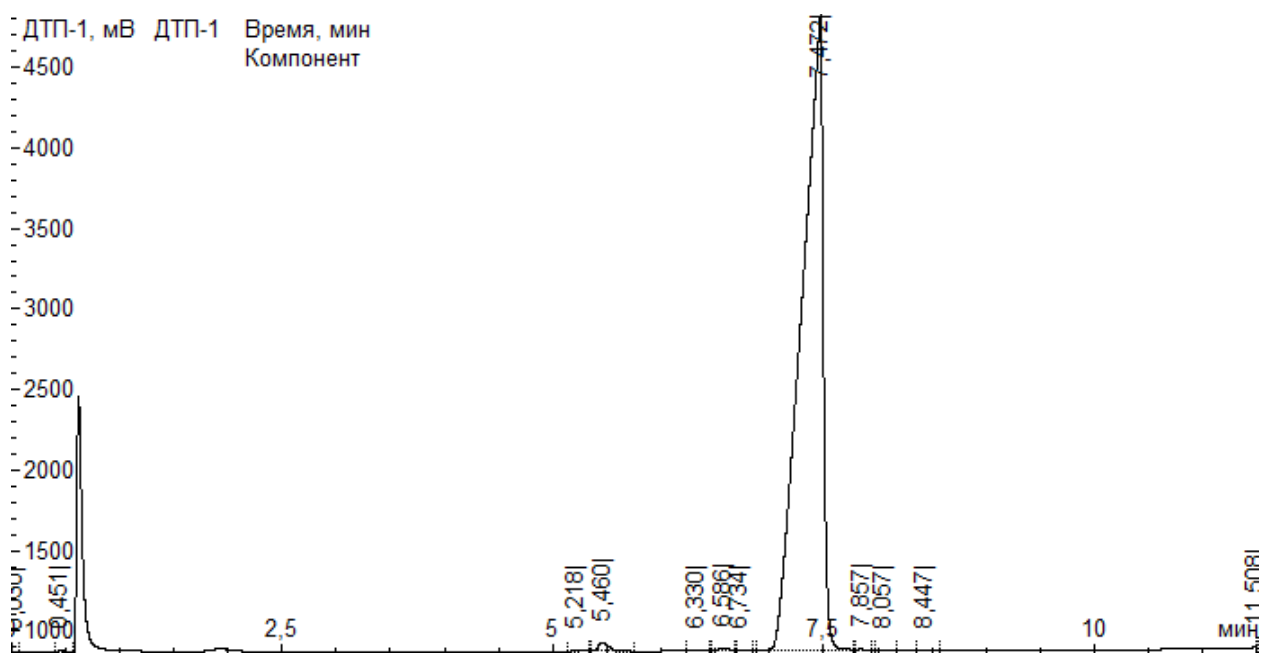


Figure S3. GLC curve of di(2-ethoxyethoxy)diethylsilane 3.

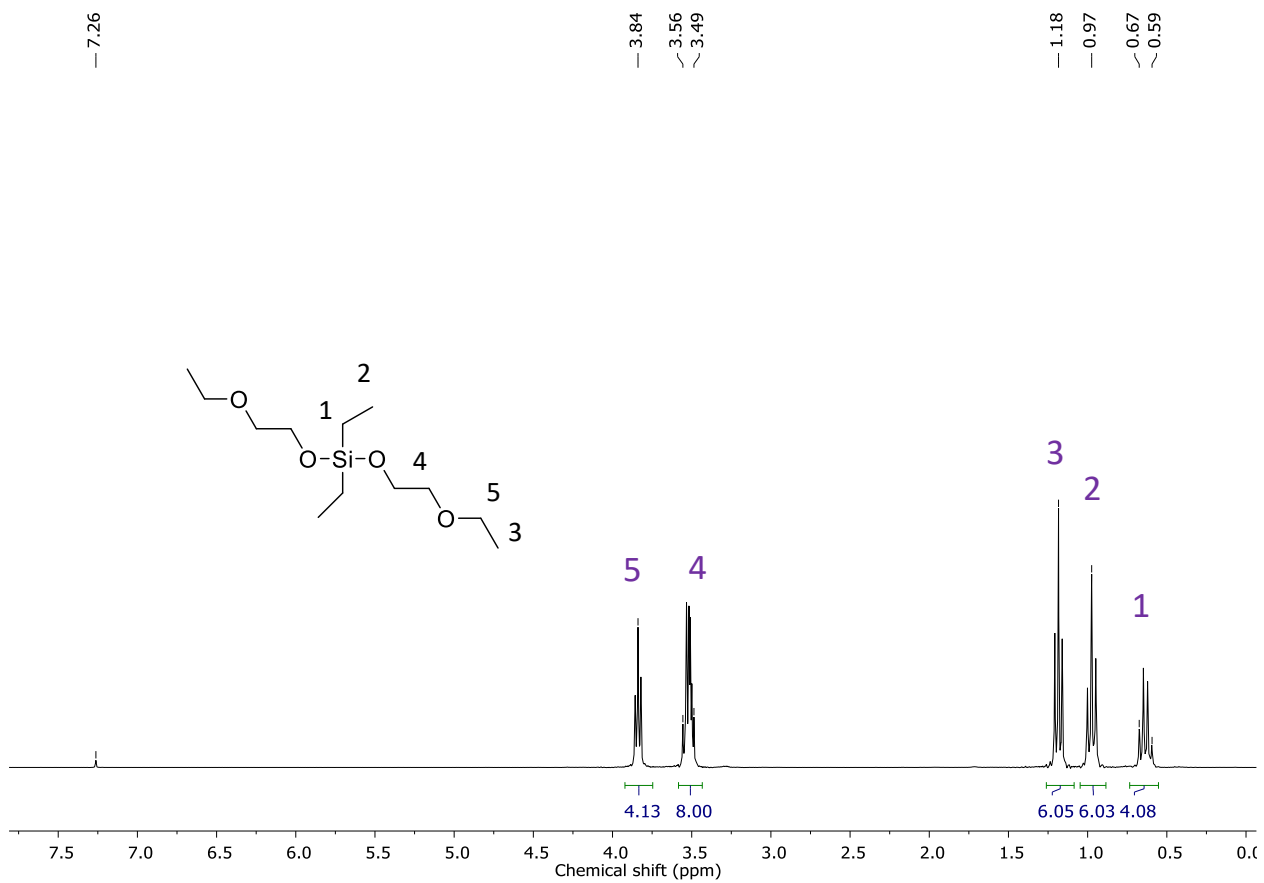


Figure S4. ^1H NMR spectrum of compound 3.

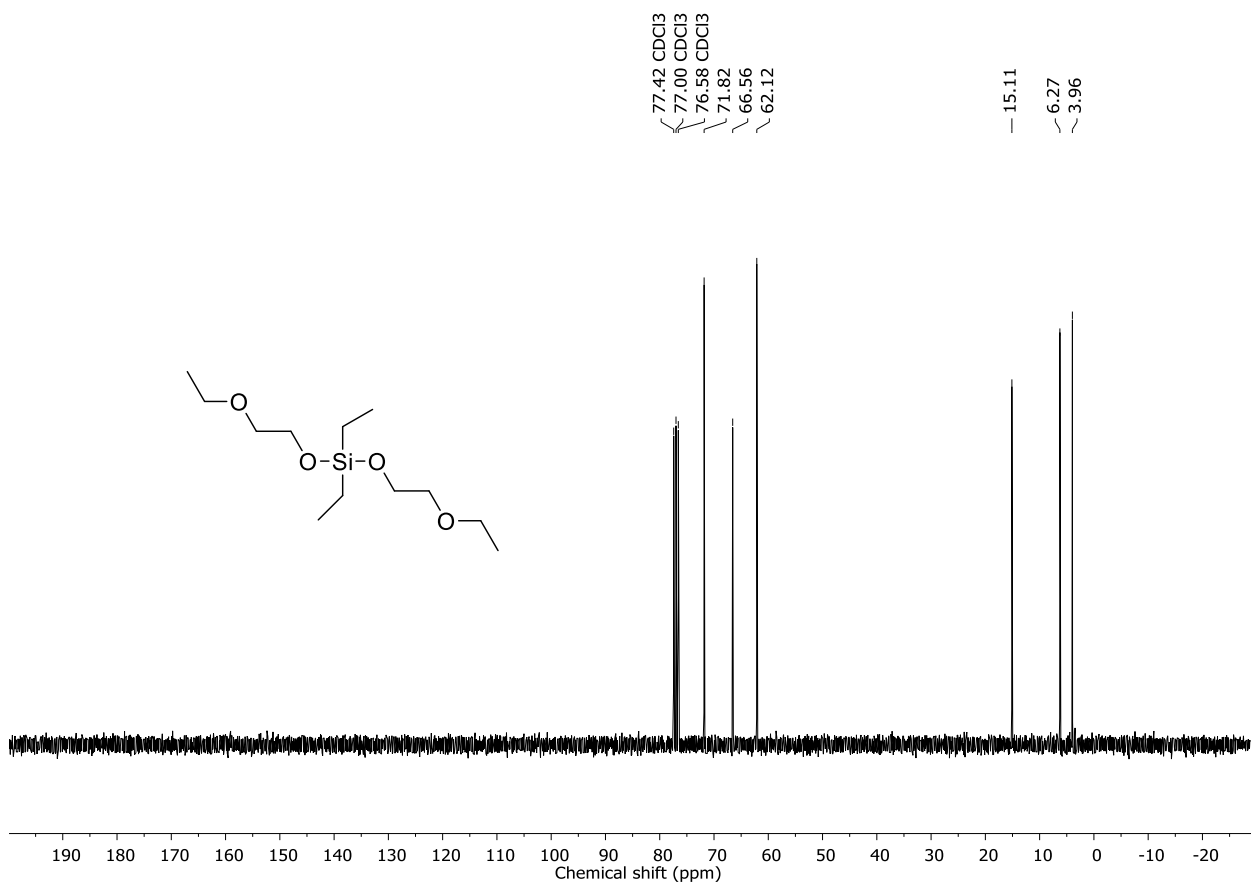


Figure S5. ^{13}C NMR spectrum of compound 3.

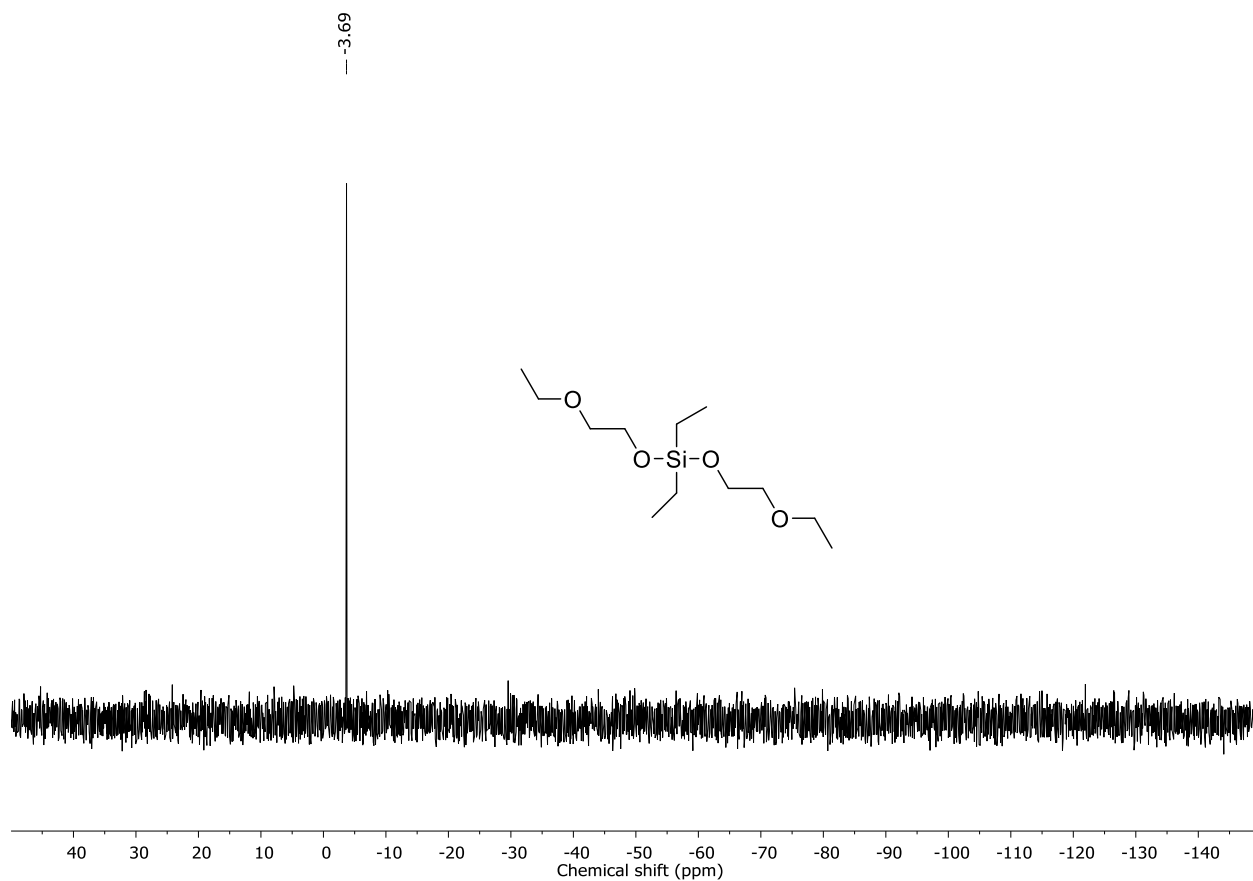


Figure S6. ^{29}Si NMR spectrum of compound 3.

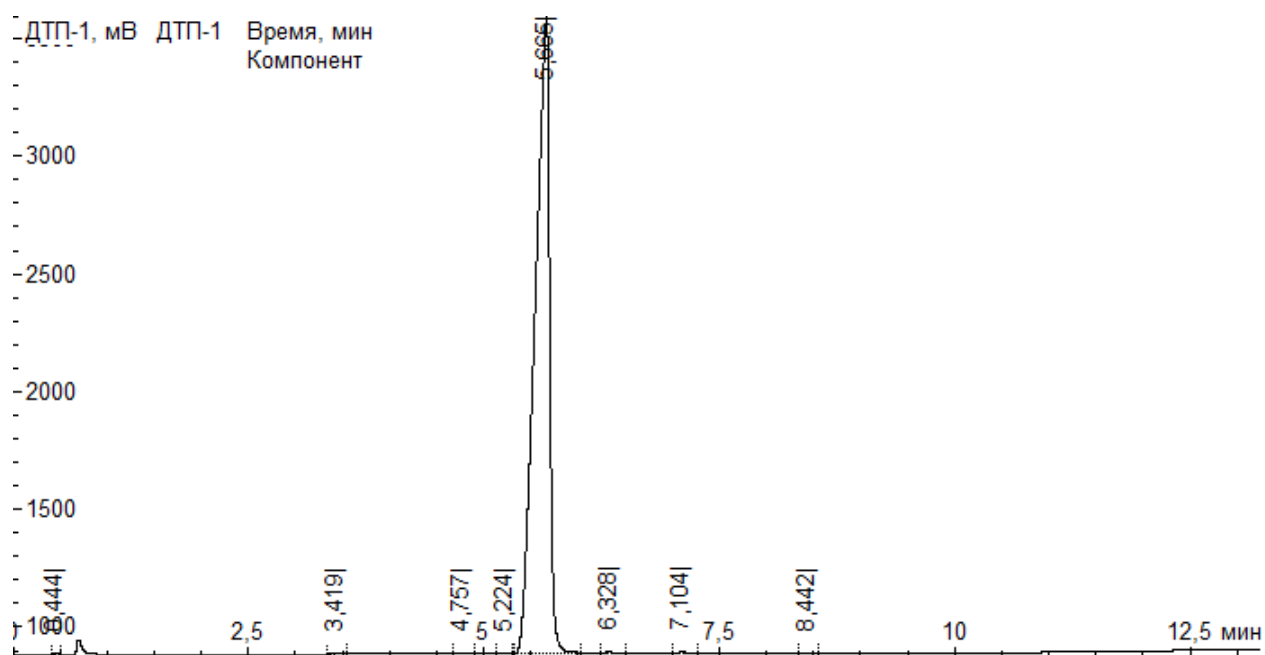


Figure S7. GLC curve of (2-ethoxyethoxy)triethylsilane 2.

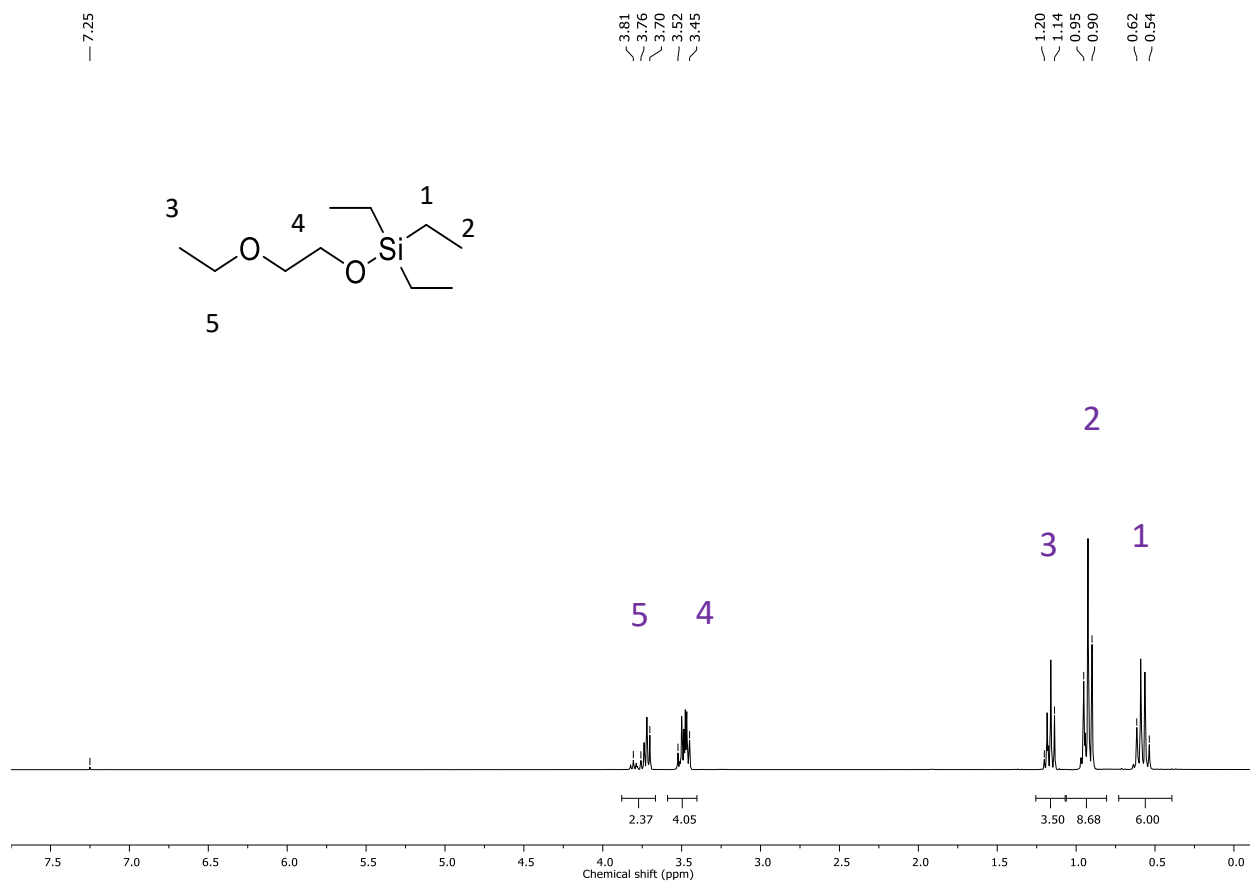


Figure S8. ^1H NMR spectrum of compound 2.

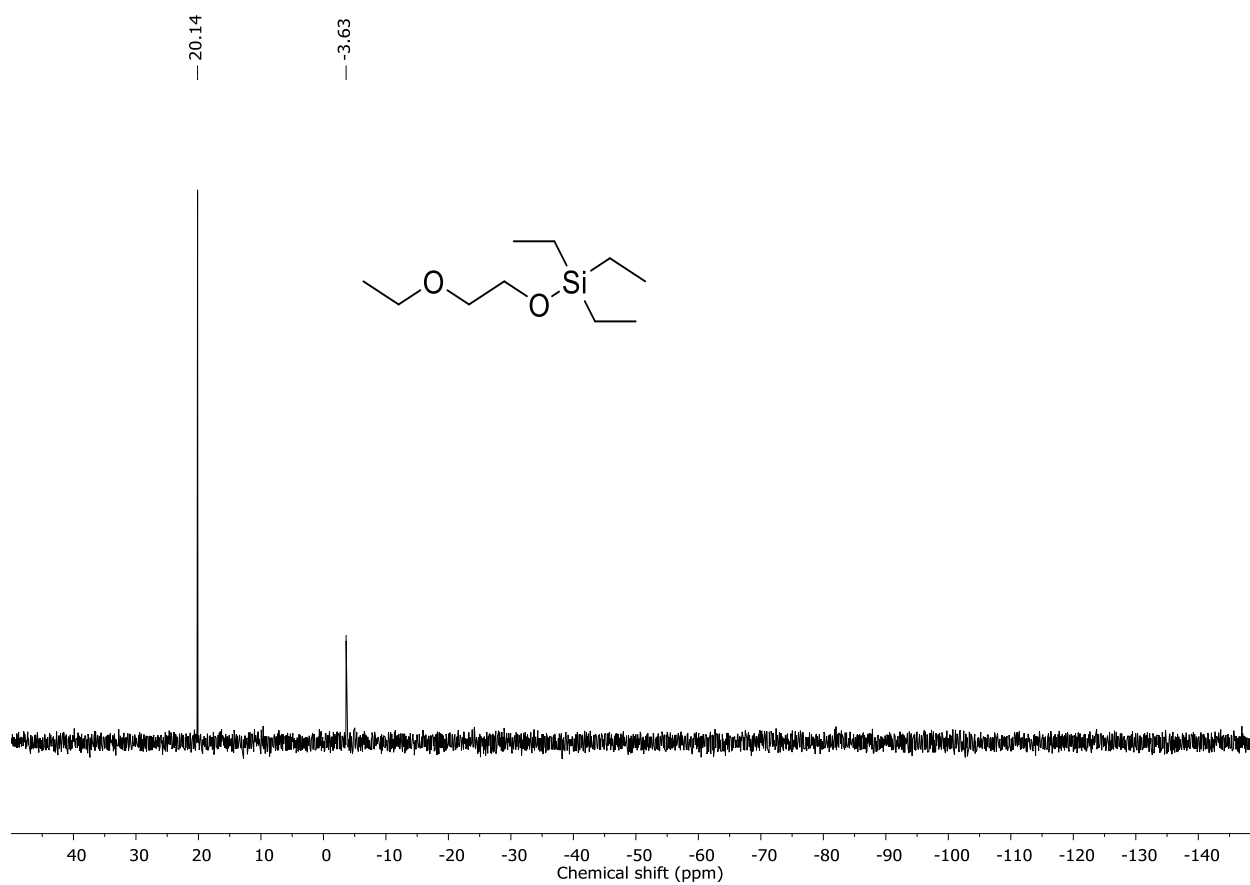


Figure S9. ^{29}Si NMR spectrum of compound 2.

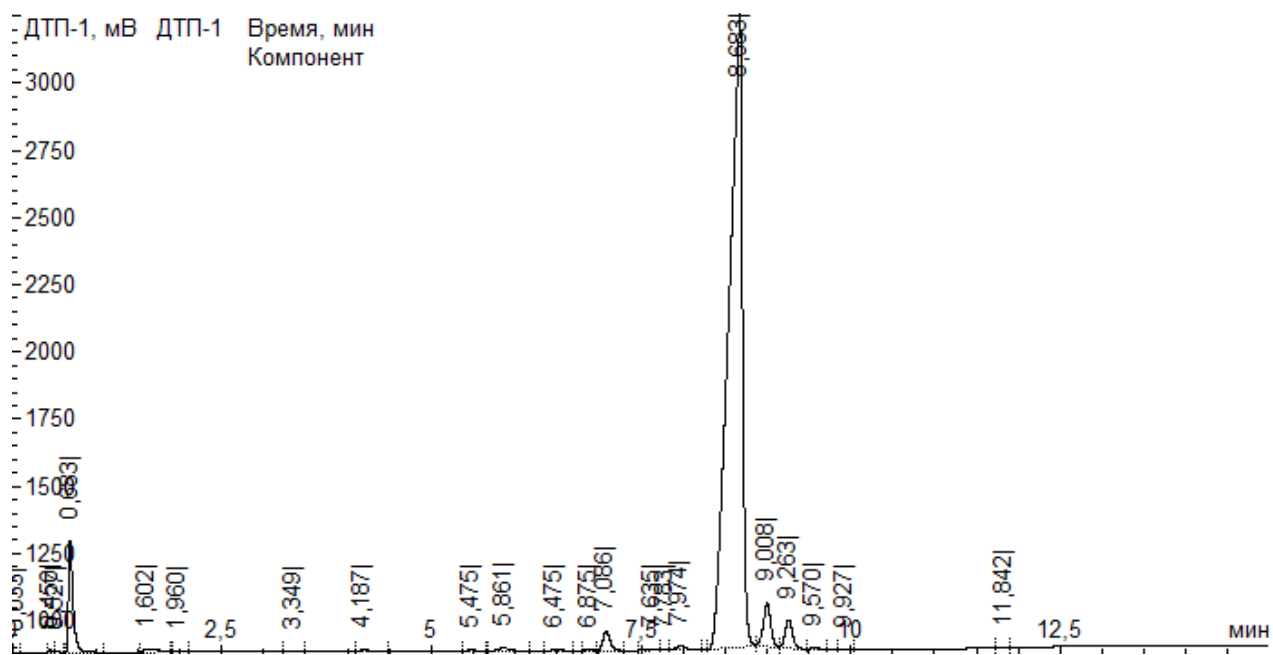


Figure S10. GLC curve of tri(2-ethoxyethoxy)ethylsilane **4**.

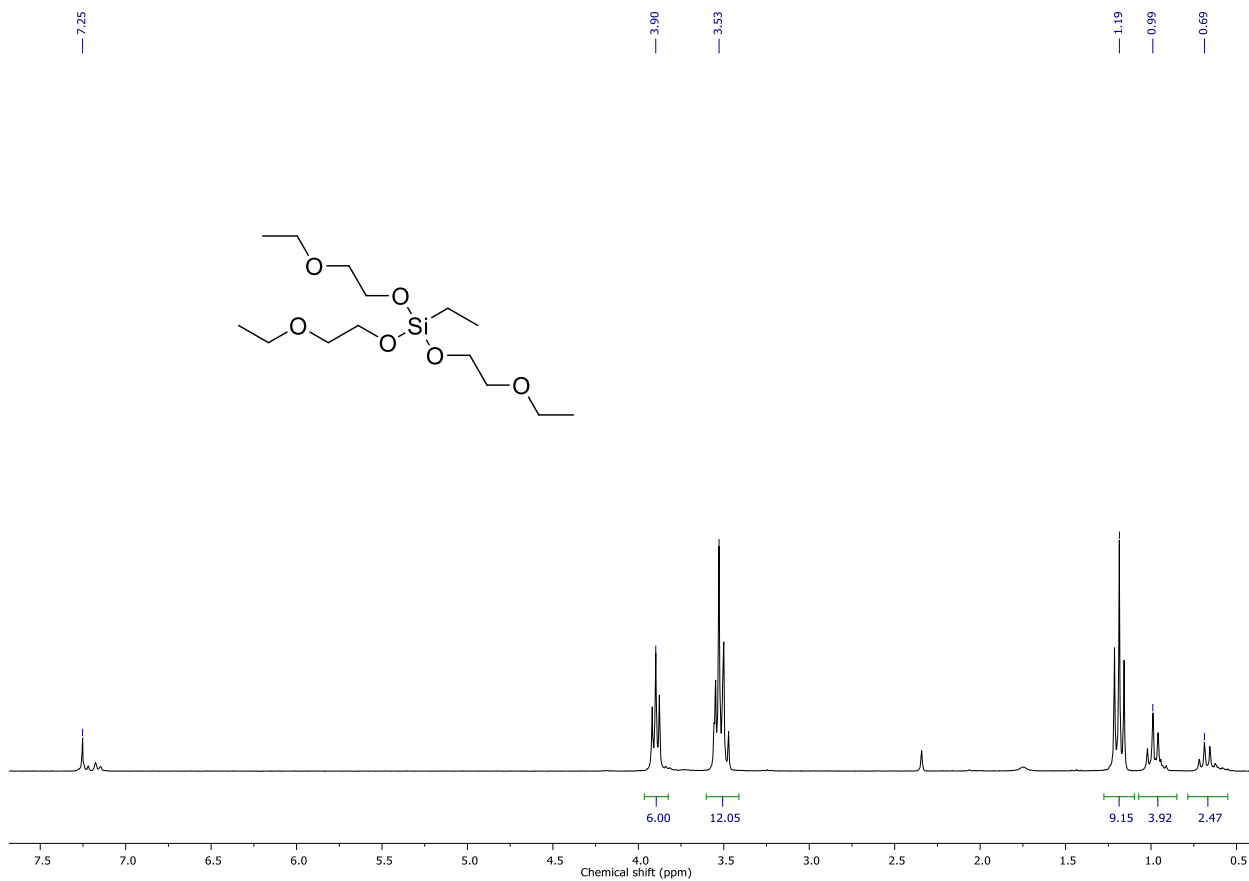


Figure S11. ^1H NMR spectrum of compound **4**.