

Synonym: Poly Cyclohexyl ethylene-*b*-4Vinylpyridine

CC(C)CC1=CC=CC=C1C2=CC=CC=C2N

Mn x 10 ³	PDI
12.5-b-48.0	1.3

CC(C)CC(C)(C1CCCCC1)COC(=O)C(C)(C)S(=S)CCCCCCCCCCCC

Chemical structure of the polymer repeat unit is shown above the inset. The structure is a poly(vinyl alcohol-co-vinyl cyclohexane) derivative. The main spectrum shows a broad peak at 3.6 ppm (3.6H) and a sharp peak at 3.63 ppm (3.63H). The label "P16167-VCH-OH" is centered below the main spectrum.

Chemical structure of **OR421-F1** is shown above the spectrum. The structure is a thioether derivative of a branched fatty acid, specifically 2-methyl-3-((11-oxo-11-oxaundecyl)thio)butanoic acid. The chemical formula is $\text{CH}_3(\text{CH}_2)_{10}\text{CH}_2\text{S-C(=S)-S-C(CH}_3)_2\text{COOH}$.

The ^1H NMR spectrum (400 MHz, CDCl_3) displays the following peaks (ppm):

- 1.191 (triplet, integration 3.000, $\text{CH}_3(\text{CH}_2)_{10}\text{CH}_2$)
- 1.898 (multiplet, integration 2.080, CH_2 adjacent to S)
- 2.109 (multiplet, integration 2.109, CH_2 adjacent to S)
- 5.465 (multiplet, integration 2.080, CH_2 adjacent to S)
- 16.381 (broad singlet, integration 1.000, COOH)
- 1.721 (singlet, integration 3.000, CH_3 on quaternary carbon)
- 1.652 (singlet, integration 3.000, CH_3 on quaternary carbon)
- 1.382 (singlet, integration 3.000, CH_3 on quaternary carbon)
- 1.254 (singlet, integration 3.000, CH_3 on quaternary carbon)
- 0.878 (singlet, integration 3.000, CH_3 on quaternary carbon)

1H NMR spectrum of P16164-VCH-RAFT in CDCl₃. The spectrum shows a sharp peak at 7.26 ppm (aromatic), a small peak at 4.13 ppm (CH₂), a small peak at 3.27 ppm (CH₂), a small peak at 2.56 ppm (CH₂), and a complex multiplet between 1.0 and 2.0 ppm (aliphatic). The x-axis is labeled 'ppm' and ranges from 0.5 to 7.5. The sample name 'P16164-VCH-RAFT' is printed in the center.

P16192

Chemical structure of the polymer repeat unit: *CC(C)C(C(=O)OC1=CC=CC=C1)C(C)C(C=C1)C(C)C=C1. Protons are labeled: a (backbone CH), b (backbone CH), c (backbone CH), d (backbone CH), e (backbone CH), f (backbone CH), g (backbone CH).

¹H NMR spectrum (CDCl₃) showing peaks at 8.30 (a), 7.26 (CHCl₃), 6.35 (b), 6.24 (c), 3.71 (THF), 3.44 (d), 1.92 (THF), 1.40 (e), 1.18 (f), and 1.05 (g). Integration values are provided below the peaks: 2.00, 0.09, 2.00, 0.09, 0.09, 1.70, 1.62, 1.40, 1.18, 1.05.

Reference:

Synthesis and thermal properties of
poly(vinylcyclohexane)-*b*-poly(4-vinylpyridine) diblock
copolymers prepared via RAFT polymerization

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