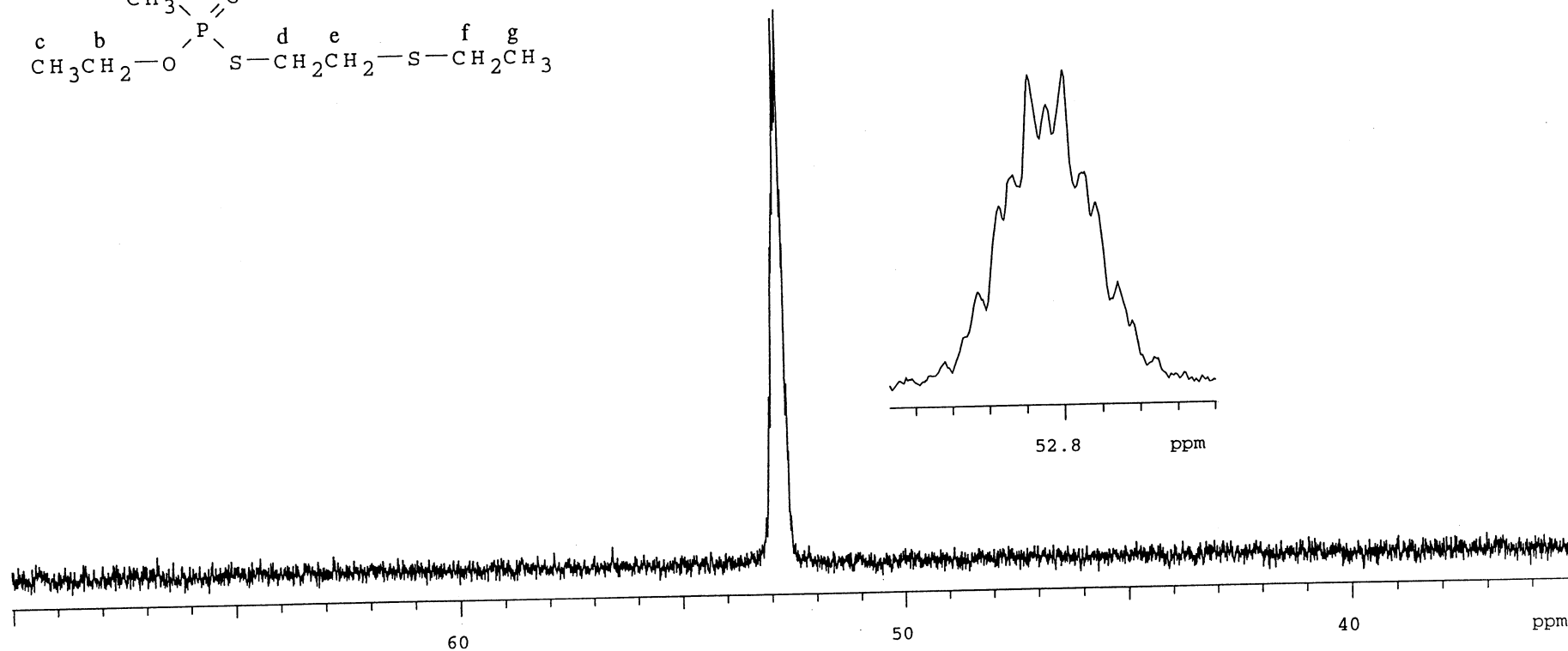
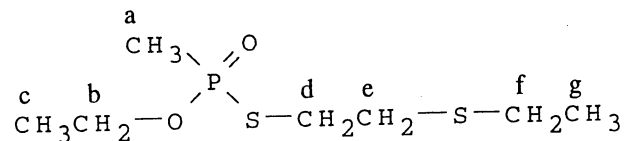


<sup>31</sup>P NMR

# O-Ethyl S-2-(ethylthio)ethyl methylphosphonothiolate

[556-75-2]



Solvent: CDCl<sub>3</sub>  
Concentration: 22.8 mg/ 1.0 ml  
Reference substance: ext. P(OH)<sub>4</sub>ClO<sub>4</sub>  
Sample temperature: 29.0 °C  
Resonance frequency: 161.987 MHz  
Spectral width: 5681.8 Hz  
Data points (FID; spec.): 64 k; 64 k

Flip angle; Pulse width: 45 °; 4.6 μs  
No. of scans; Rep. time: 128; 7.8 s  
Weighting; Line broad.: exp.; 1.0 Hz  
Spectral resolution: 2.7 Hz (P)  
Instrument: Bruker AMX-400  
Source reference: 930709-754  
Signature: *Markku Mesilaakso*  
Markku Mesilaakso

nuc. δ [ppm]  
P 52.84 For couplings see the <sup>1</sup>H spectrum.

δ(P(OH)<sub>4</sub>ClO<sub>4</sub>) = 0.66 vs. δ(H<sub>3</sub>PO<sub>4</sub>) = 0.00

5-3-142

OPCW Code:05-3-0142(p1/1)