



Retraction Note to: Synthesis of thioesters and thioamides under solvothermal condition using thiourea as thionating agent

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The Editor-in-Chief has retracted this article. After publication, concerns were raised that the synthesis described does not produce the stated products.

The authors provided the most analytical data for the synthesis of *O*-ethyl benzothioate from ethyl benzoate. The article gave the NMR chemical shift of the methylene protons as 4.4 ppm, which matches the shift of the starting ester; the methylene signal from the corresponding thioester would move upfield (i.e., to a lower value) by 0.3 to 0.6 ppm. The authors described a colourless product, but the thioester synthesized using Lawesson's reagent should be yellow to orange, consistent with other thioesters

[1]. *O*-ethyl benzothioate synthesized using Lawesson's reagent had a boiling point of 112–116 °C at 10 mmHg [2]; the authors reported a boiling point of 189 °C and stated that the reported value was 190 °C, which is incorrect. Compounds 2a-ii, 2a-iii, 2a-iv, 2a-v, and 2a-vi were not described in any of the references cited by the authors to support their boiling point or melting point measurements.

The authors did not state their synthesis temperature. When contacted, the corresponding author stated that the autoclave was kept at 100 °C, which is below the melting points of all the reagents, so the reactions cannot be called solvothermal as indicated by the title. The authors also did not describe a purification method; when contacted, the corresponding author stated that column chromatography

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was used. No elemental analysis was provided; the corresponding author stated that a chemical test was positive for sulphur, suggesting that a thiourea adduct was made rather than the desired product.

The Editor-in-Chief therefore no longer has confidence in the results and conclusions presented.

None of the authors has responded to correspondence from the Publisher about this retraction.

References

[1] M. P. Cava, M. L. Levinson (1985) Thionation reactions of Lawesson's reagents. *Tetrahedron* 41:5061–5087. [https://doi.org/10.1016/S0040-4020\(01\)96753-5](https://doi.org/10.1016/S0040-4020(01)96753-5)

[2] B. S. Pedersen, S. Scheibye, K. Clausen, S.-O. Lawesson (1978) Studies on organophosphorus compounds XXII. The dimer of p-methoxyphenylthionophosphine sulfide as thiation reagent. A new route to O-substituted thioesters and dithioesters. *Bull Soc Chim Belg* 87:293–297. <https://doi.org/10.1002/bscb.19780870407>

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