

Supplementary Material: (2*S*,5*R*)-2-Isopropyl-5-methylcyclohexanone Hydrazones

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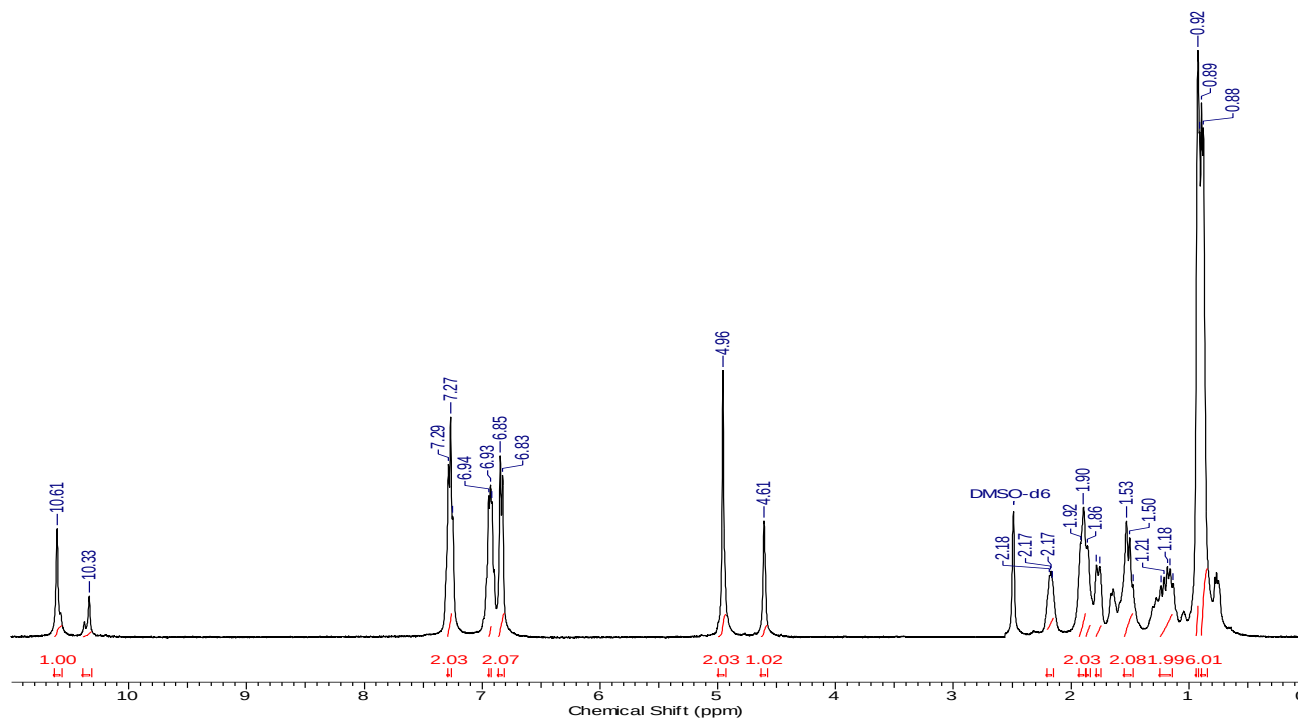


Figure S1. ^1H NMR spectrum of 2-phenoxy- N' -[(2*S*,5*R*)-5-methyl-2-(propan-2-yl)cyclohexylidene] acetohydrazide (**3a**).

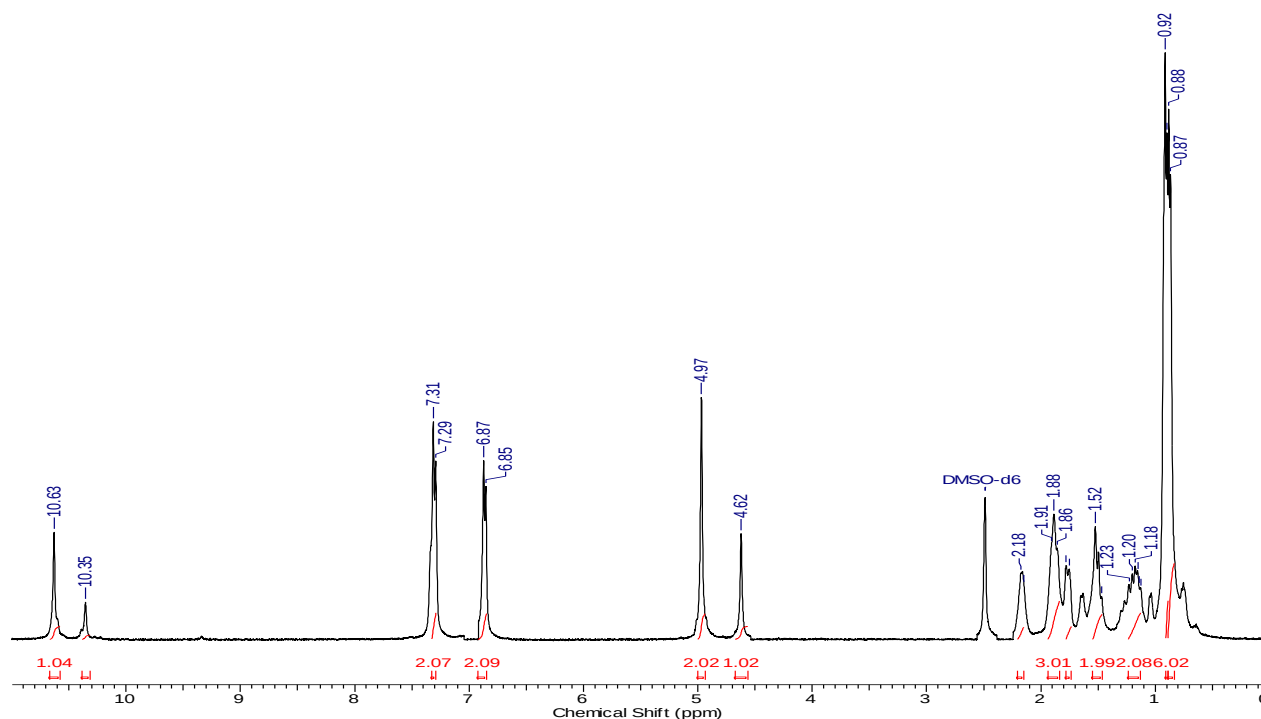


Figure S2. ^1H NMR spectrum of 2-(4-chlorophenoxy)- N' -[(2*S*,5*R*)-5-methyl-2-(propan-2-yl)cyclohexylidene] acetohydrazide (**3b**).

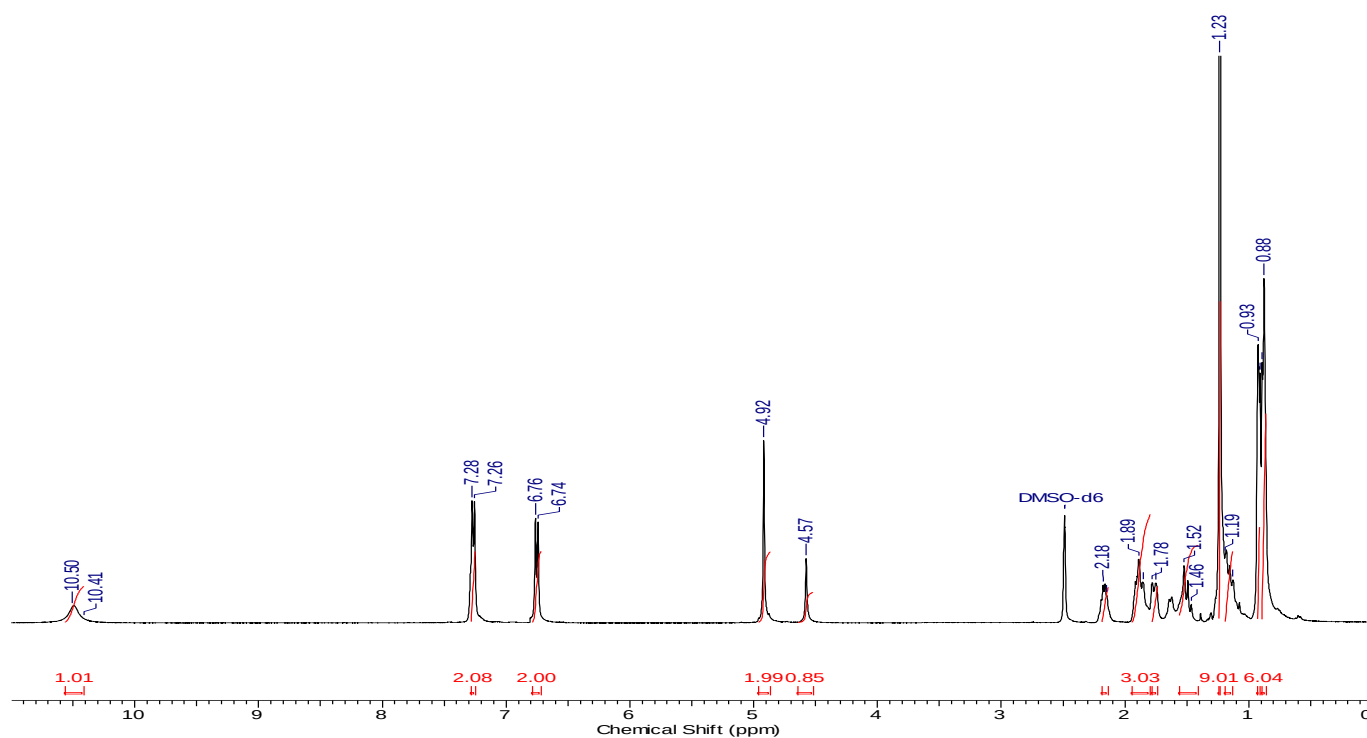


Figure S3. ¹H NMR spectrum of 2-(4-*tert*-butylphenoxy)-*N'*-[(2*S*,5*R*)-5-methyl-2-(propan-2-yl)cyclohexylidene]acetohydrazide (**3c**).

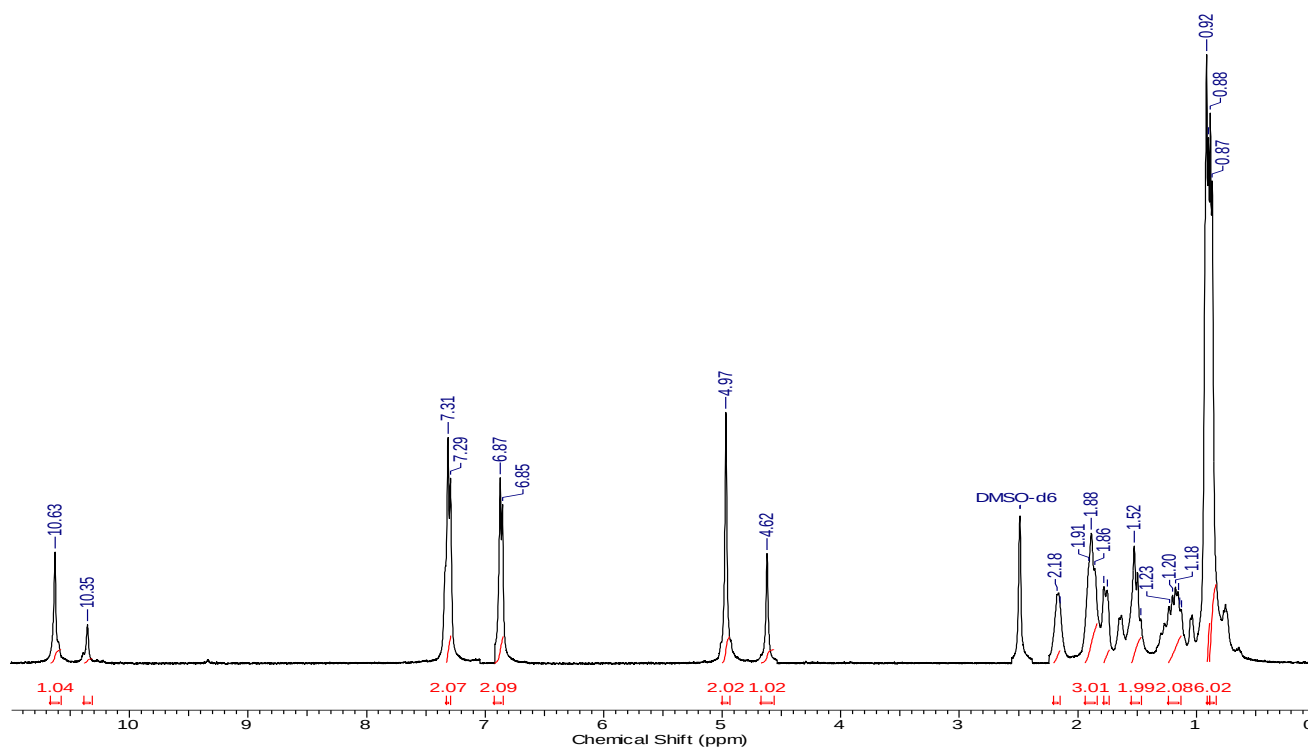


Figure S4. ¹H NMR spectrum of 2-(4-bromophenoxy)-*N'*-[(2*S*,5*R*)-5-methyl-2-(propan-2-yl)cyclohexylidene]acetohydrazide (**3d**).

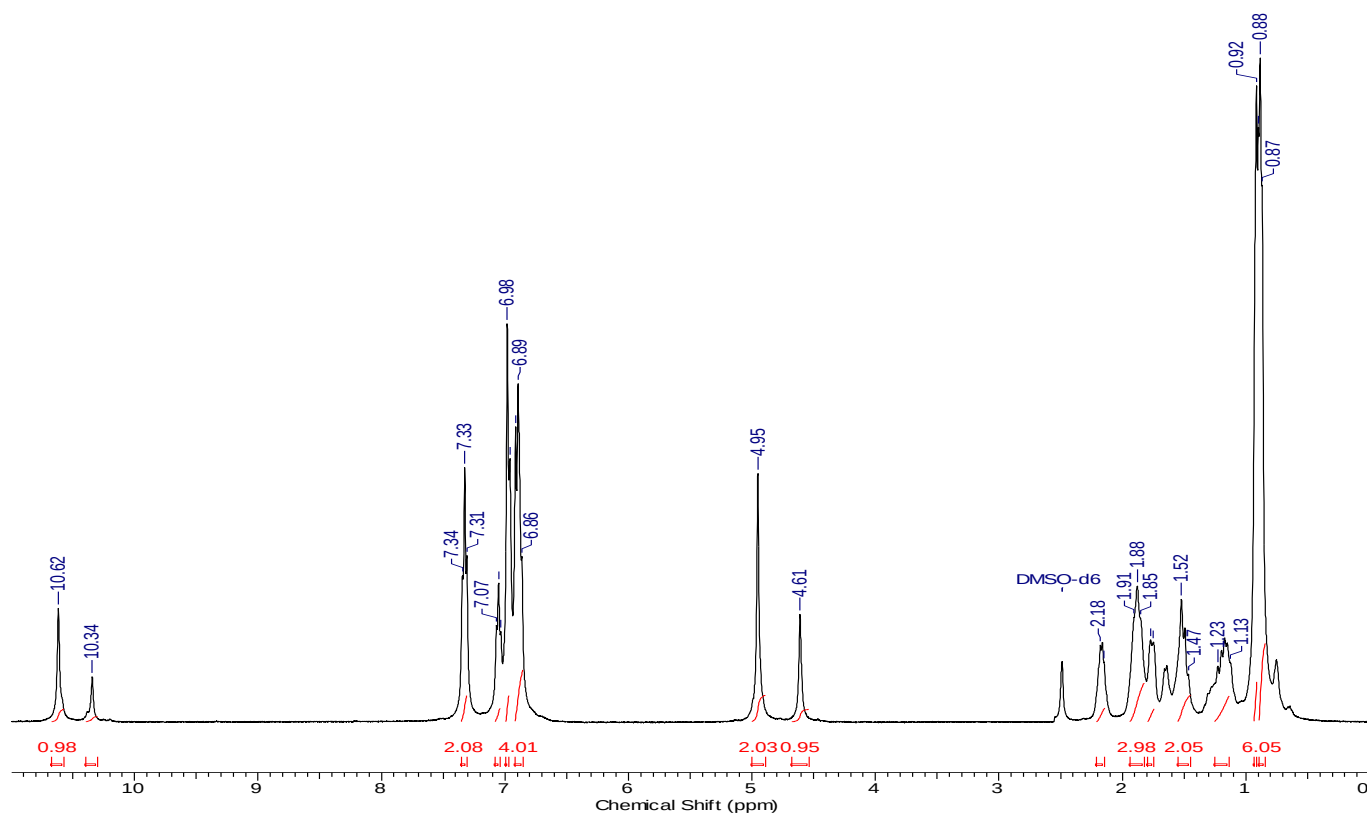


Figure S5. ¹H NMR spectrum of 2-(4-phenoxyphenoxy)-N'-[(2S,5R)-5-methyl-2-(propan-2-yl)cyclohexylidene]acetohydrazide (3e).

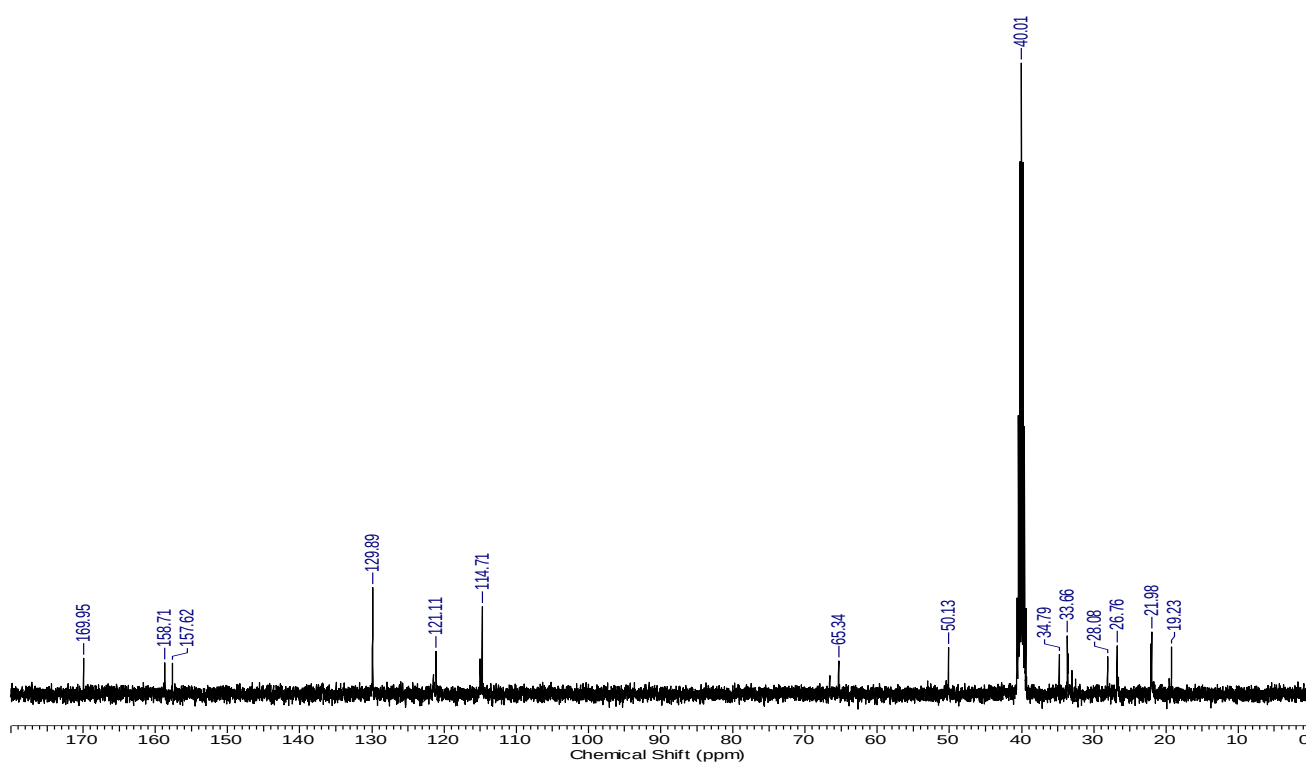


Figure S6. ¹³C NMR spectrum of 2-phenoxy-N'-[(2S,5R)-5-methyl-2-(propan-2-yl)cyclohexylidene]acetohydrazide (3a).

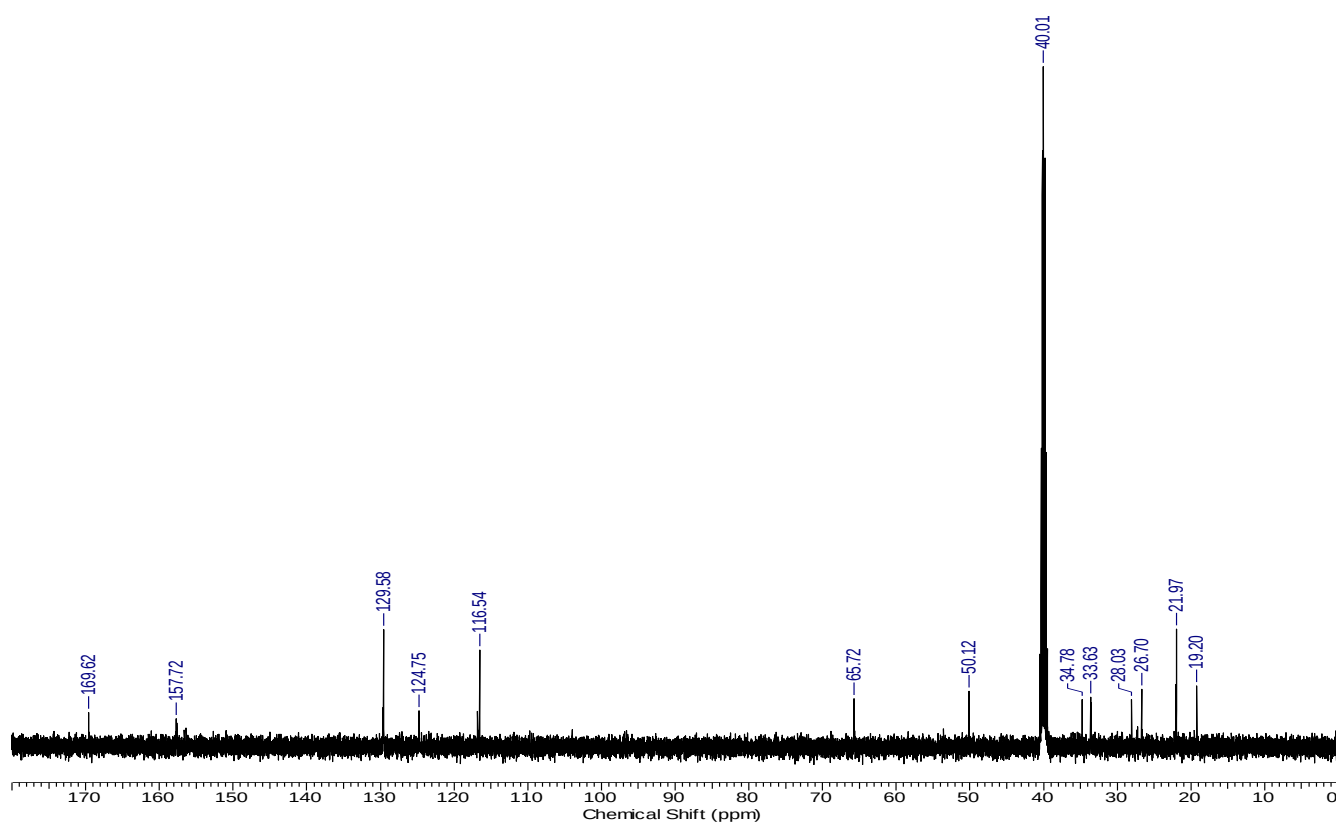


Figure S7. ¹³C NMR spectrum of 2-(4-chlorophenoxy)-*N'*-[(2*S*,5*R*)-5-methyl-2-(propan-2-yl)cyclohexylidene]acetohydrazide (**3b**).

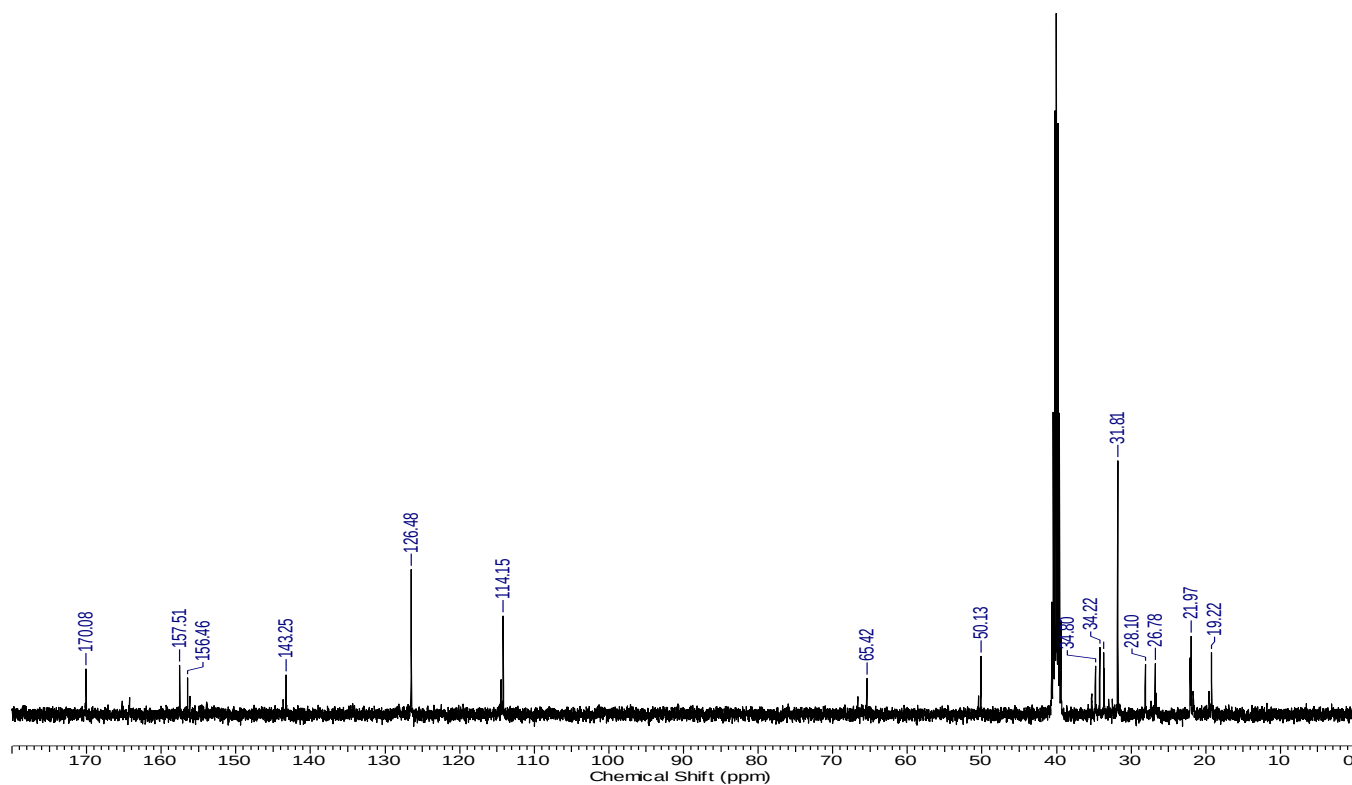


Figure S8. ¹³C NMR spectrum of 2-(4-*tert*-butylphenoxy)-*N'*-[(2*S*,5*R*)-5-methyl-2-(propan-2-yl)cyclohexylidene]acetohydrazide (**3c**).

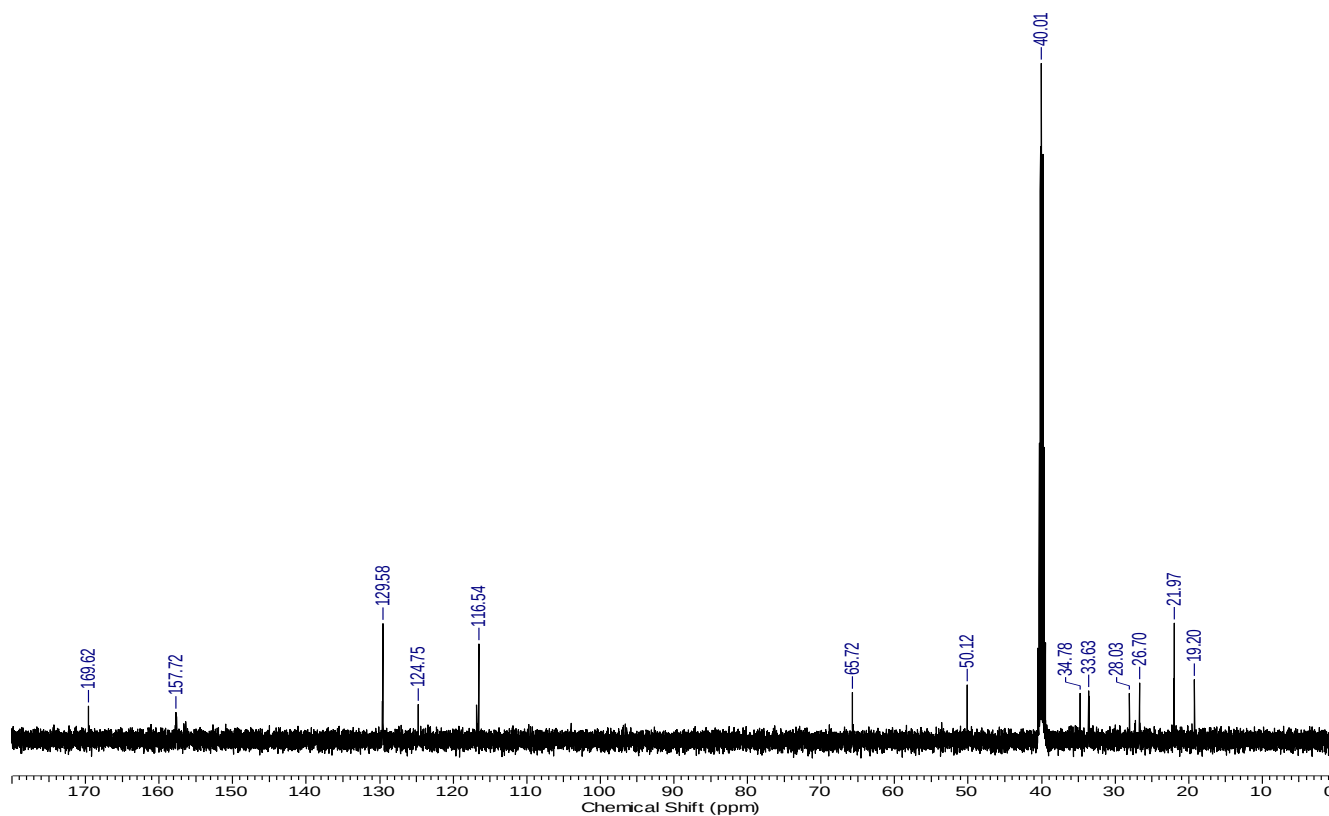


Figure S9. ¹³C NMR spectrum of 2-(4-bromophenoxy)-*N'*-[(2*S*,5*R*)-5-methyl-2-(propan-2-yl)cyclohexylidene]acetohydrazide (**3d**).

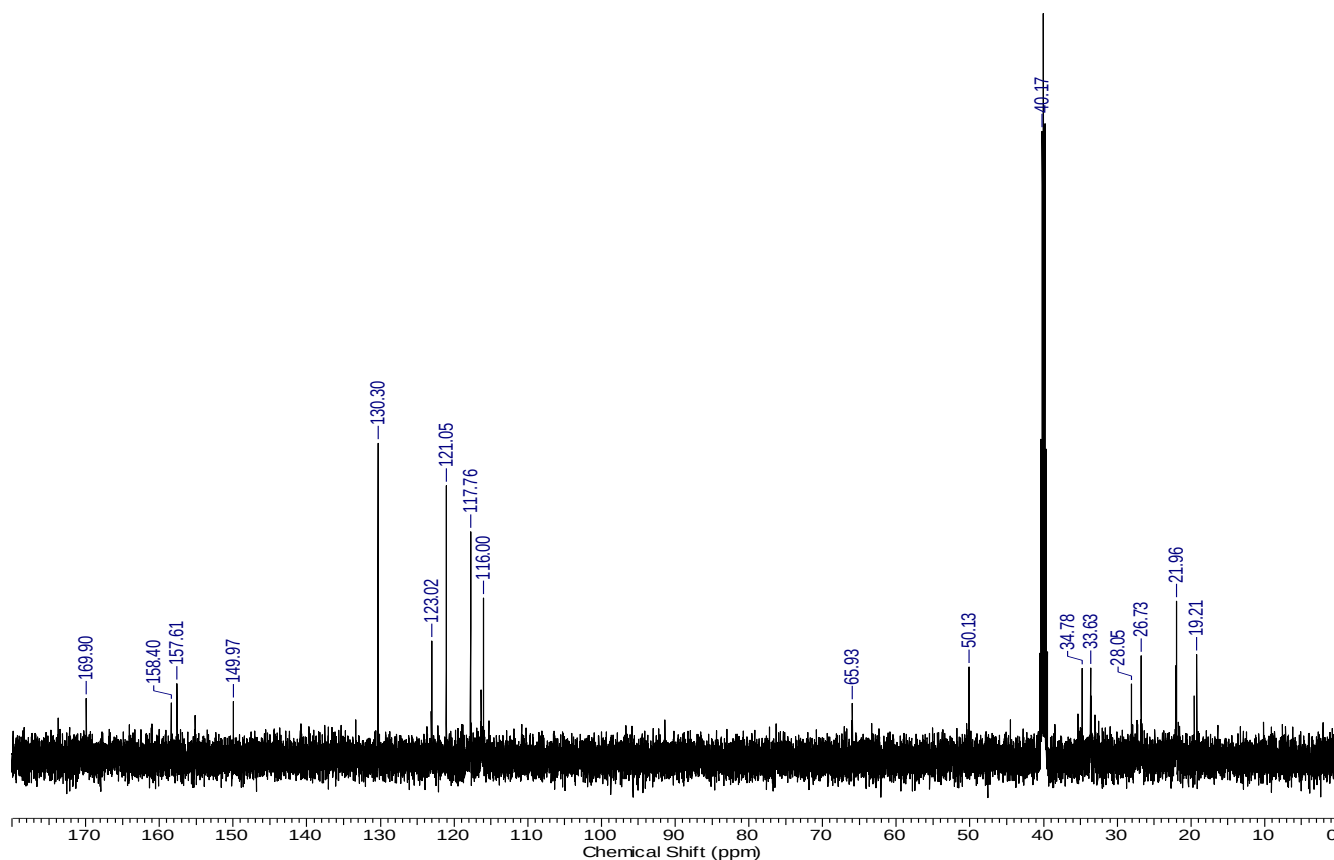


Figure S10. ¹³C NMR spectrum of 2-(4-phenoxyphenoxy)-*N'*-[(2*S*,5*R*)-5-methyl-2-(propan-2-yl)cyclohexylidene]acetohydrazide (**3e**).

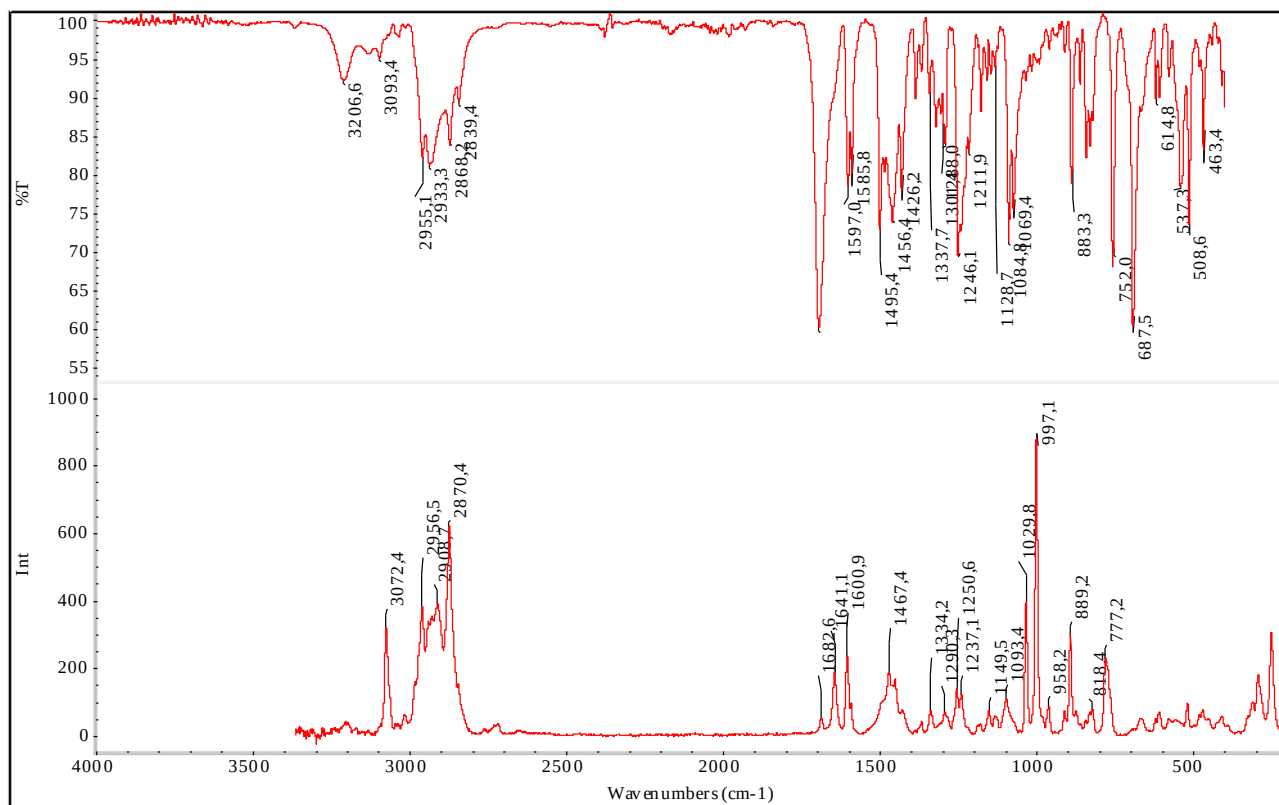


Figure S11. FTIR-ATR and Raman spectra of 2-phenoxy-N'-[(2S,5R)-5-methyl-2-(propan-2-yl)cyclohexylidene]acetohydrazide (3a).

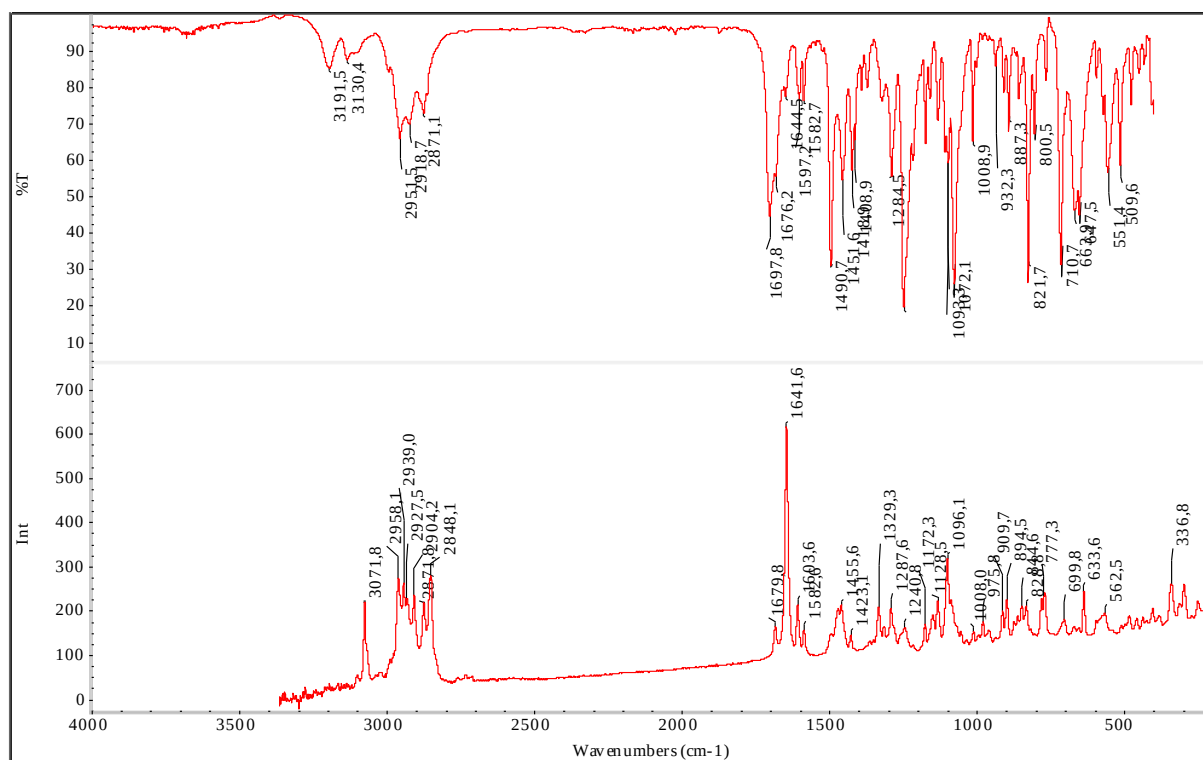


Figure S12. FTIR-ATR and Raman spectra of 2-(4-chlorophenoxy)-N'-[(2S,5R)-5-methyl-2-(propan-2-yl)cyclohexylidene]acetohydrazide (3b).

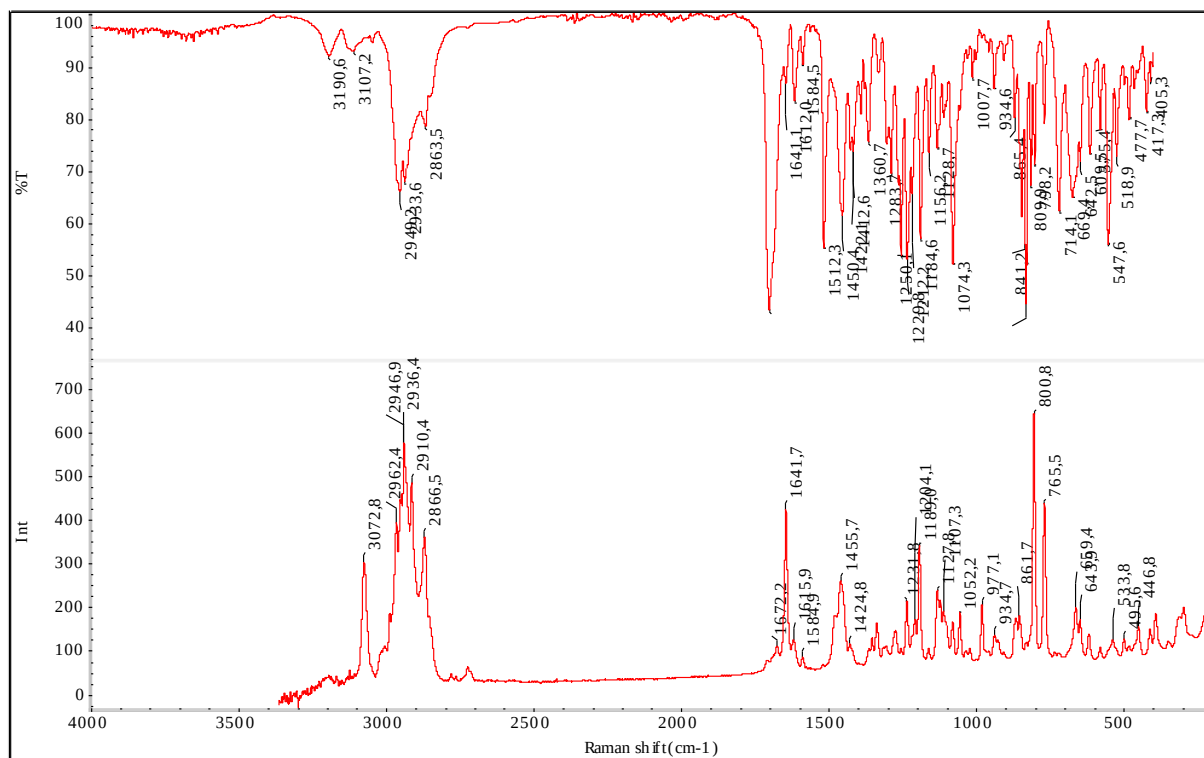


Figure S13. FTIR-ATR and Raman spectra of 2-(4-*tert*-butylphenoxy)-N'-[(2*S*,5*R*)-5-methyl-2-(propan-2-yl)cyclohexylidene]acetohydrazide (3c).

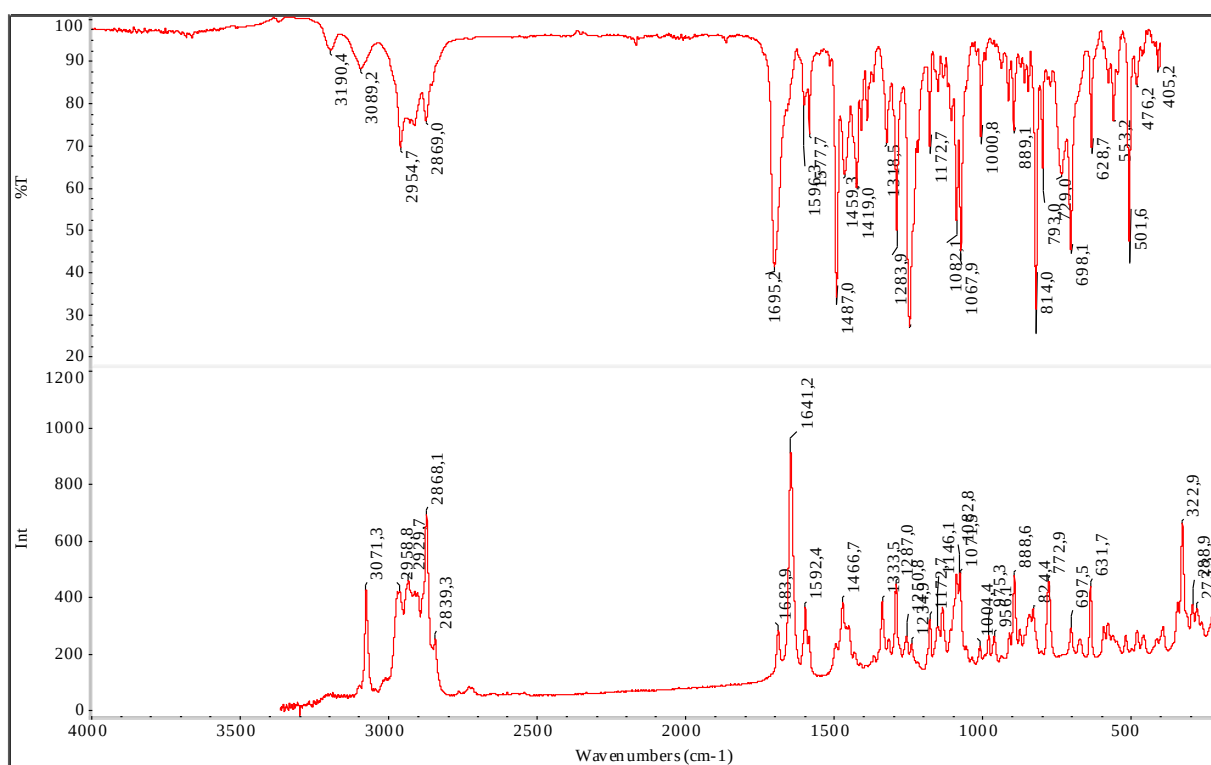


Figure S14. FTIR-ATR and Raman spectra of 2-(4-bromophenoxy)-N'-[(2*S*,5*R*)-5-methyl-2-(propan-2-yl)cyclohexylidene]acetohydrazide (3d).

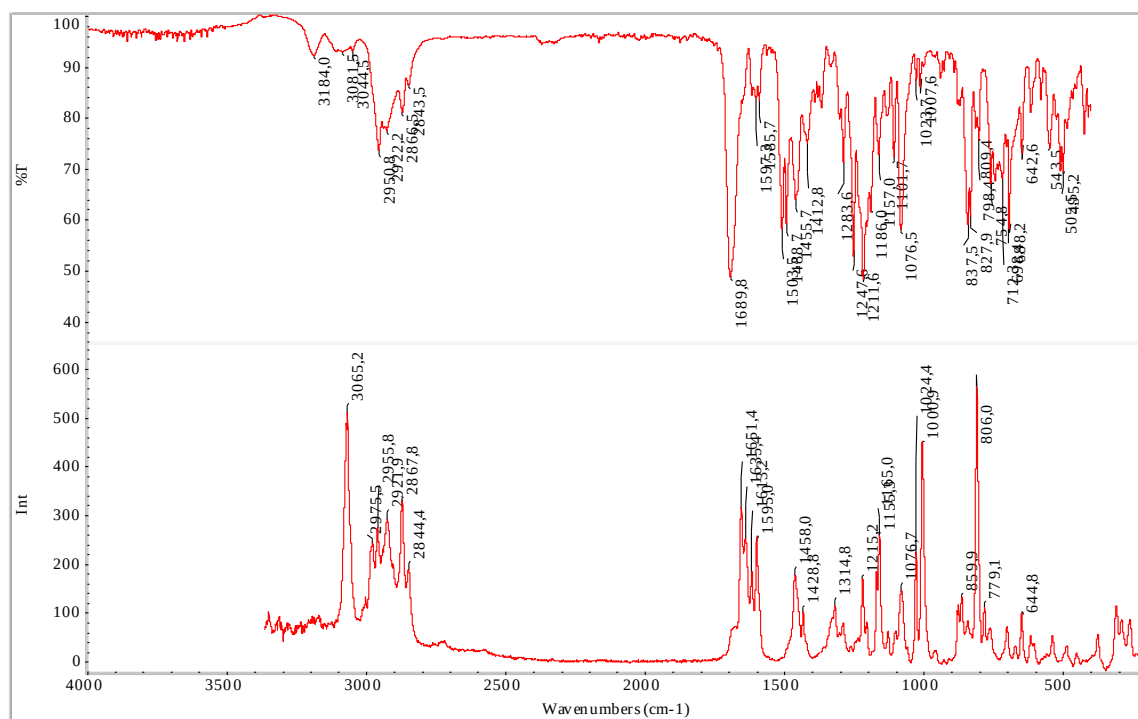


Figure S15. FTIR-ATR and Raman spectra of 2-(4-phenoxyphenoxy)-N'-[(2S,5R)-5-methyl-2-(propan-2-yl)cyclohexylidene]acetohydrazide (3e).

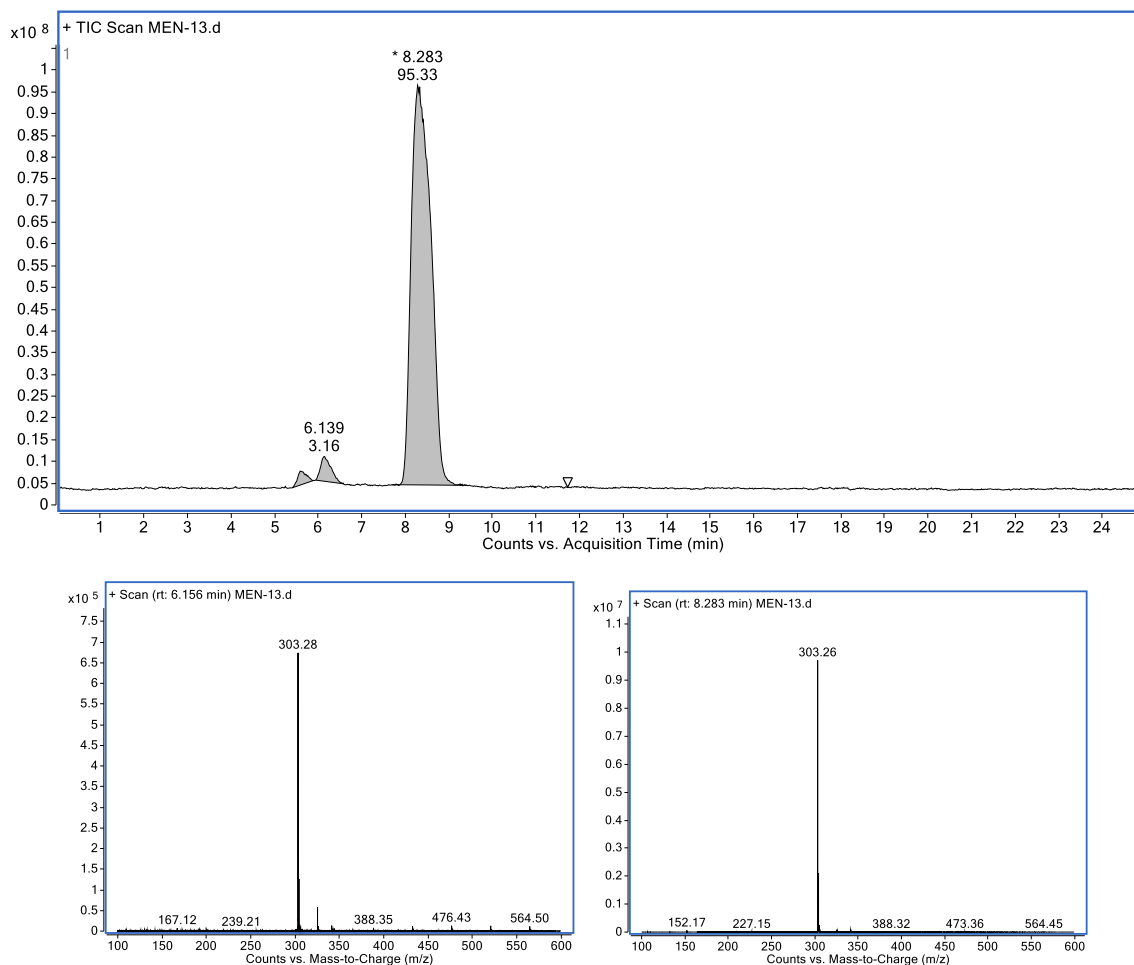


Figure S16. HPLC chromatogram and ESI mass spectrum of 2-phenoxy-N'-[(2S,5R)-5-methyl-2-(propan-2-yl)cyclohexylidene]acetohydrazide (3a).

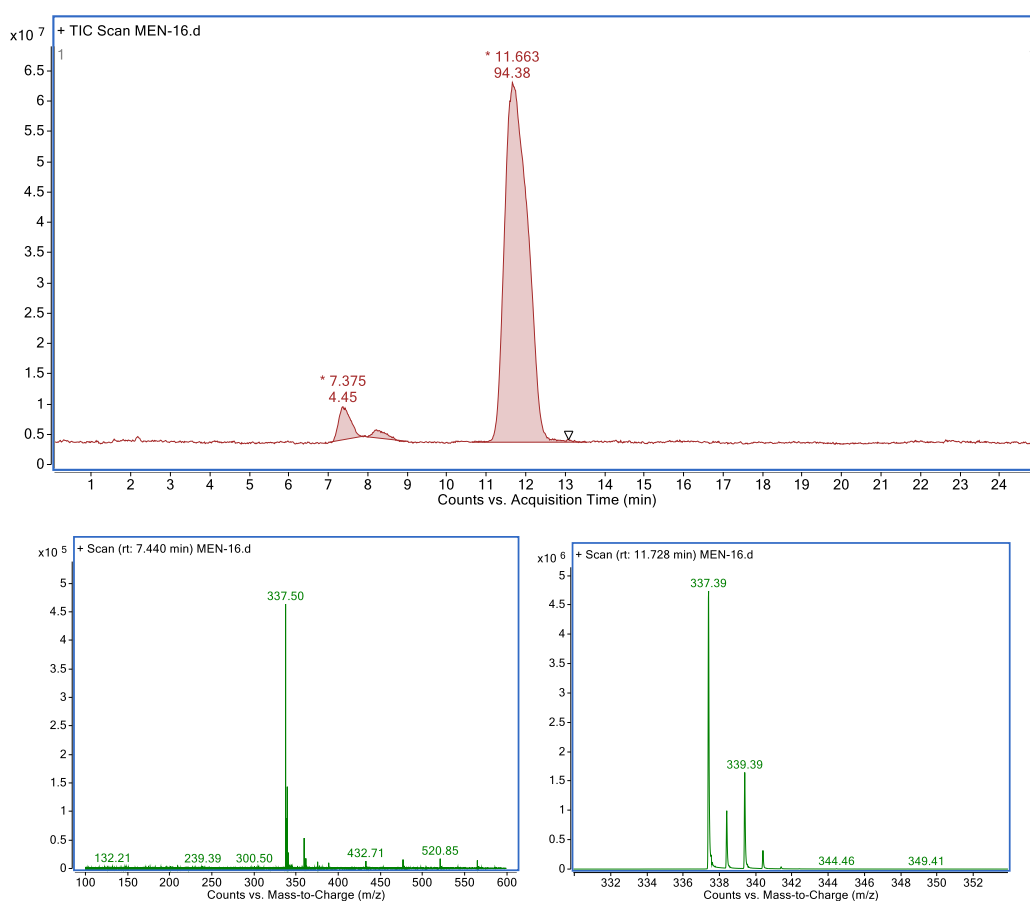


Figure S17. HPLC chromatogram and ESI mass spectrum of 2-(4-chlorophenoxy)-*N'*-[(2*S*,5*R*)-5-methyl-2-(propan-2-yl)cyclohexylidene]acetohydrazide (**3b**).

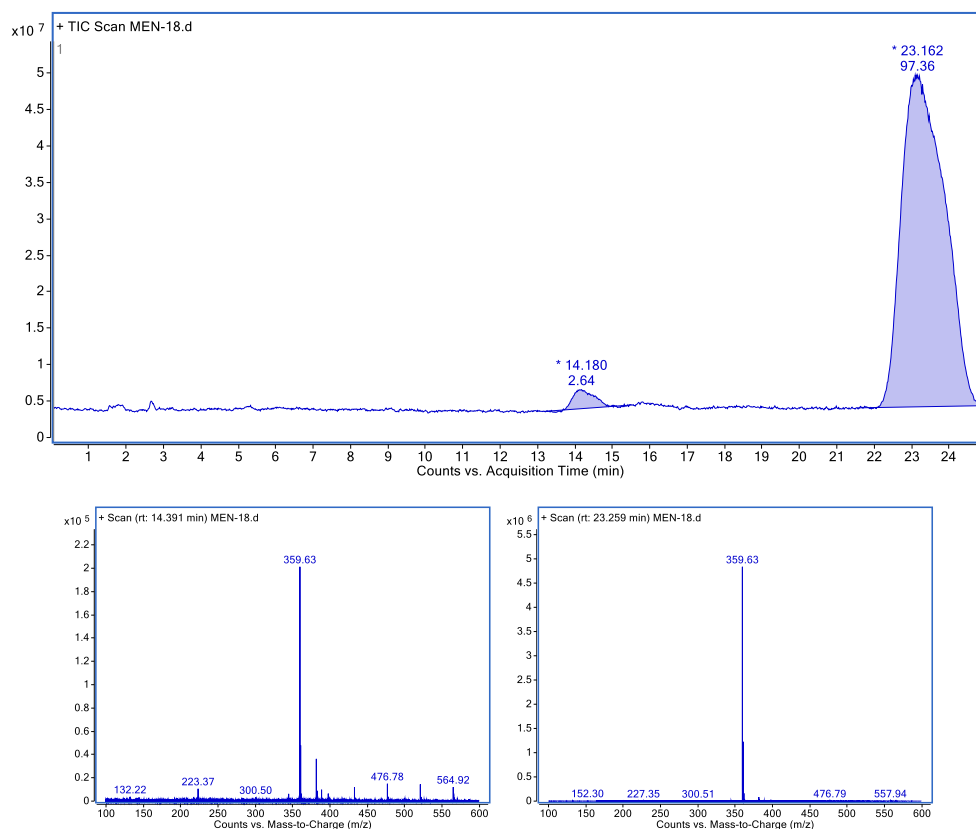


Figure S18. HPLC chromatogram and ESI mass spectrum of 2-(4-*tert*-butylphenoxy)-*N'*-[(2*S*,5*R*)-5-methyl-2-(propan-2-yl)cyclohexylidene]acetohydrazide (**3c**).

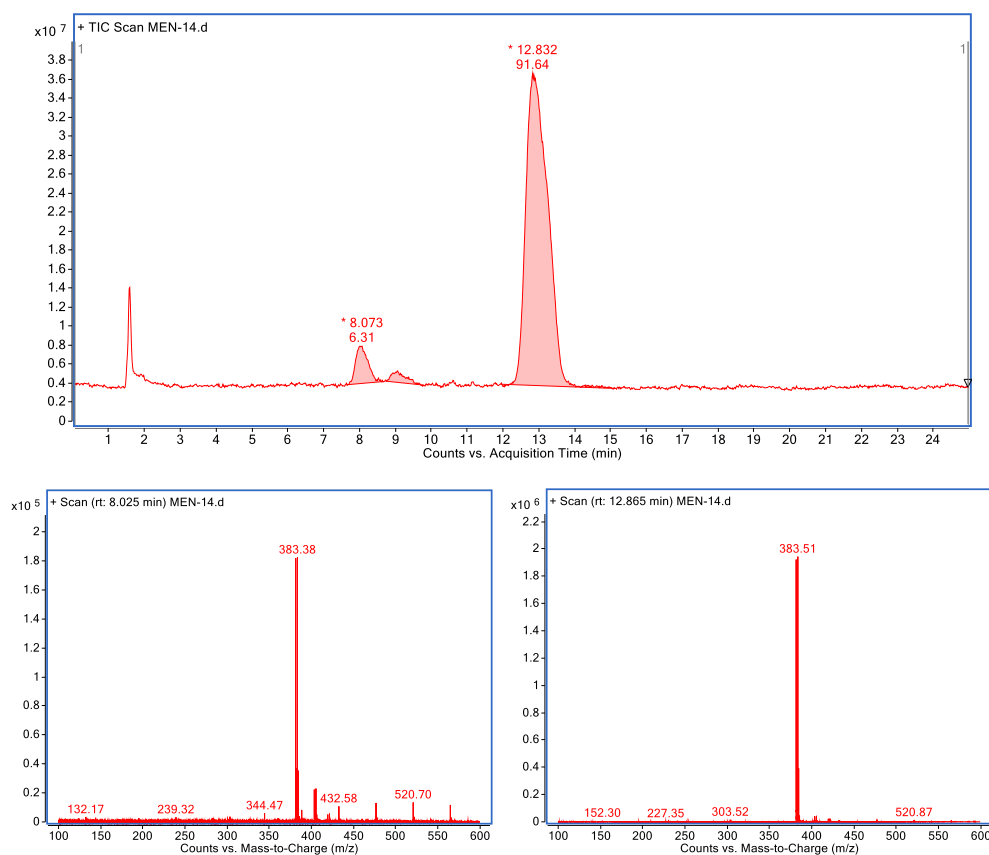


Figure S19. HPLC chromatogram and ESI mass spectrum of 2-(4-bromophenoxy)-*N'*-[(2*S*,5*R*)-5-methyl-2-(propan-2-yl)cyclohexylidene]acetohydrazide (**3d**).

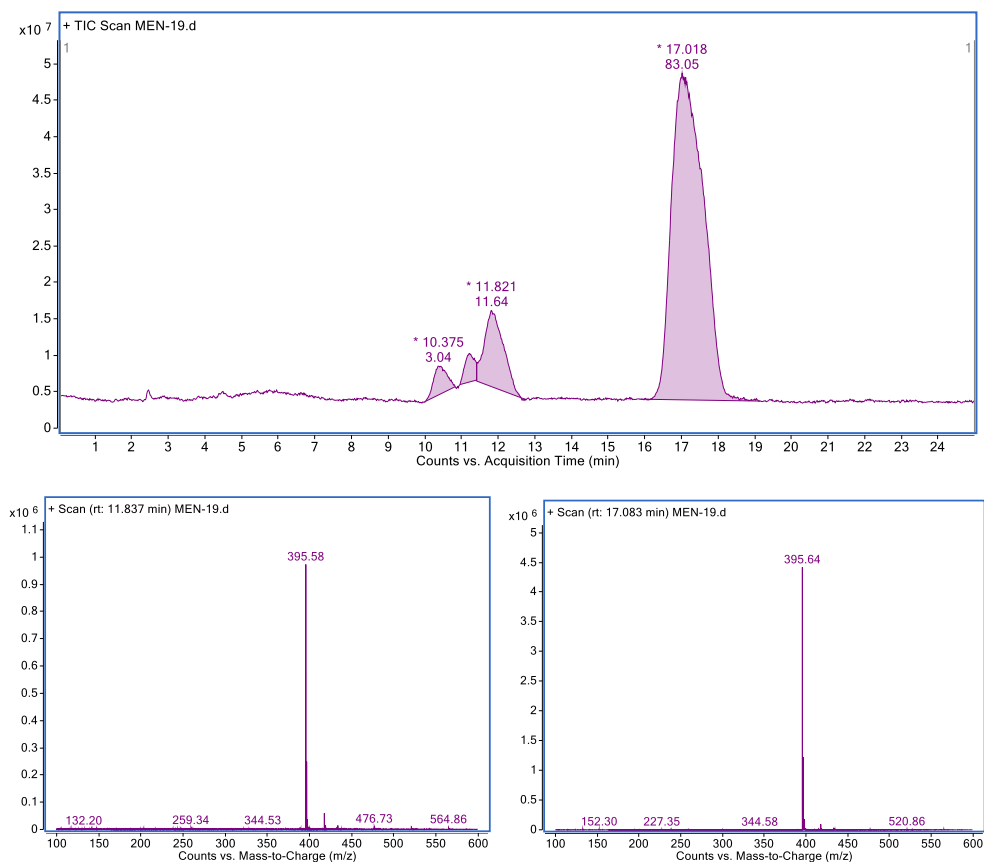


Figure S20. HPLC chromatogram and ESI mass spectrum of 2-(4-phenoxyphenoxy)-*N'*-[(2*S*,5*R*)-5-methyl-2-(propan-2-yl)cyclohexylidene]acetohydrazide (**3e**).

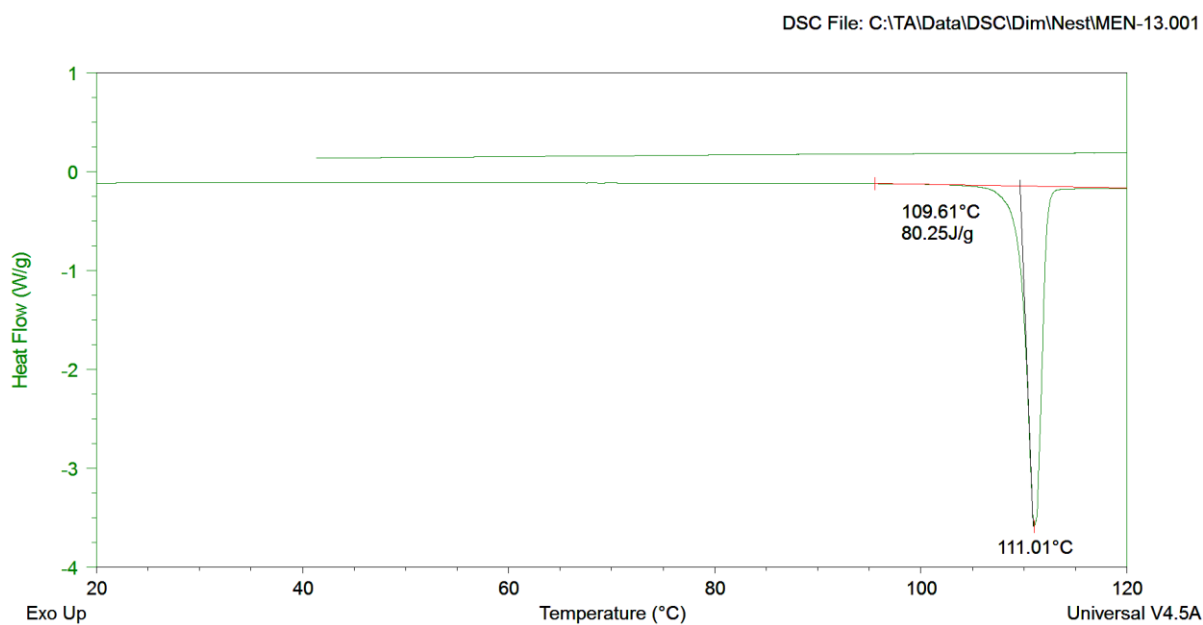


Figure S21. DSC thermogram of 2-phenoxy-*N'*-[(2*S*,5*R*)-5-methyl-2-(propan-2-yl)cyclohexylidene]acetohydrazide (**3a**).

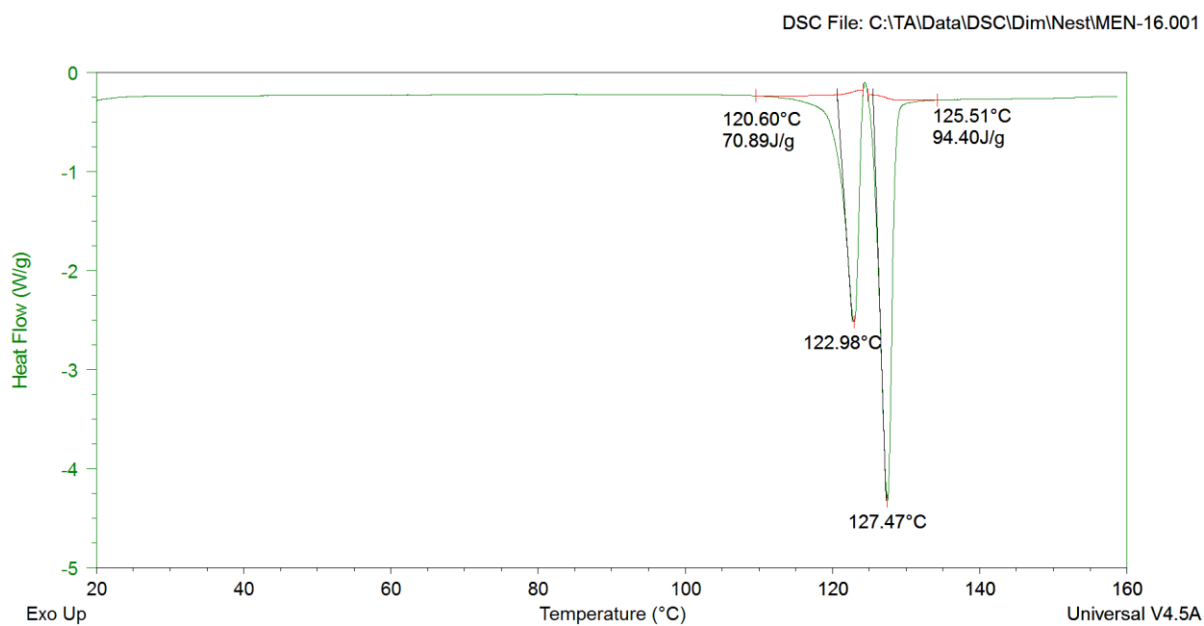


Figure S22. DSC thermogram of 2-(4-chlorophenoxy)-*N'*-[(2*S*,5*R*)-5-methyl-2-(propan-2-yl)cyclohexylidene]acetohydrazide (**3b**).

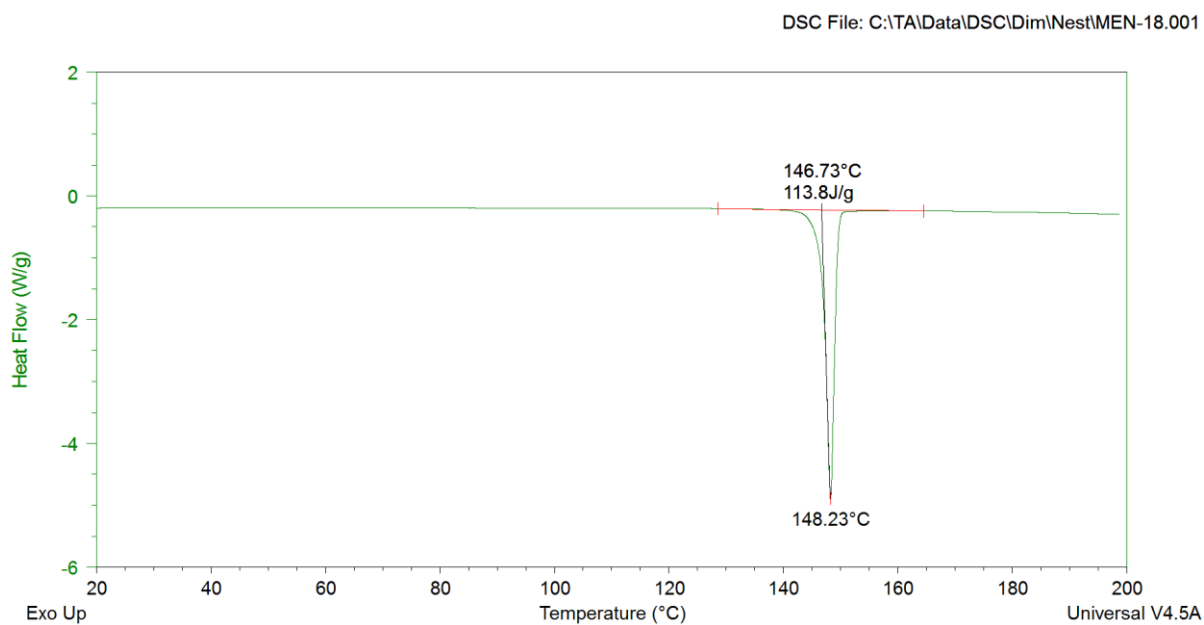


Figure S23. DSC thermogram of 2-(4-*tert*-butylphenoxy)-*N'*-[(2*S*,5*R*)-5-methyl-2-(propan-2-yl)cyclohexylidene]acetohydrazide (**3c**).

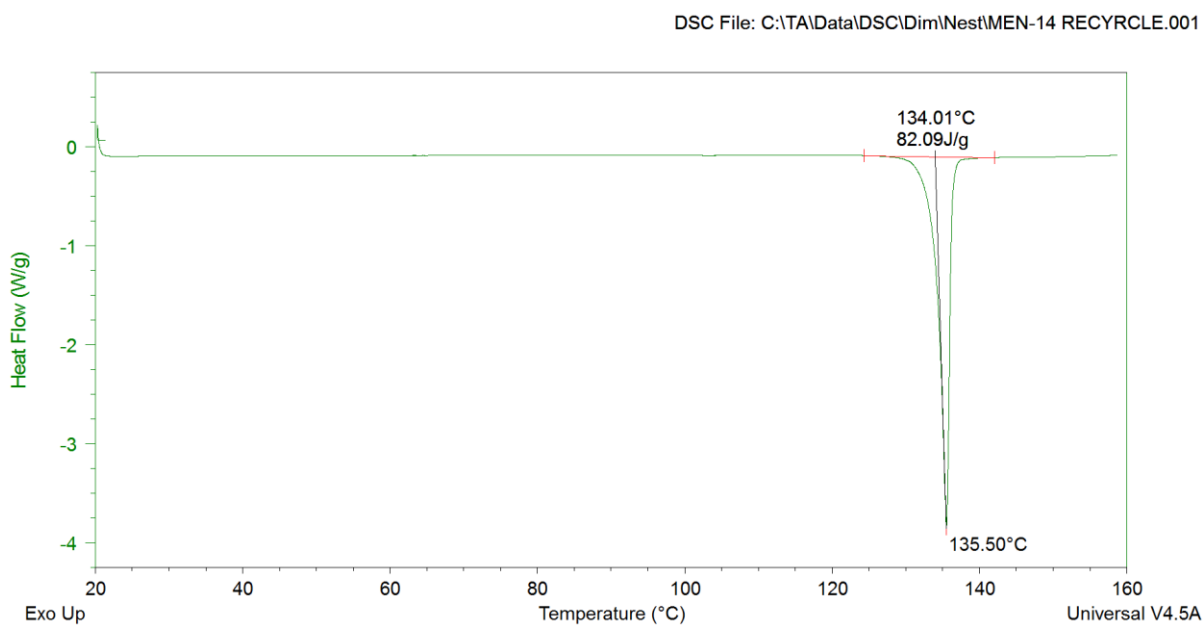


Figure S24. DSC thermogram of 2-(4-bromophenoxy)-*N'*-[(2*S*,5*R*)-5-methyl-2-(propan-2-yl)cyclohexylidene]acetohydrazide (**3d**).

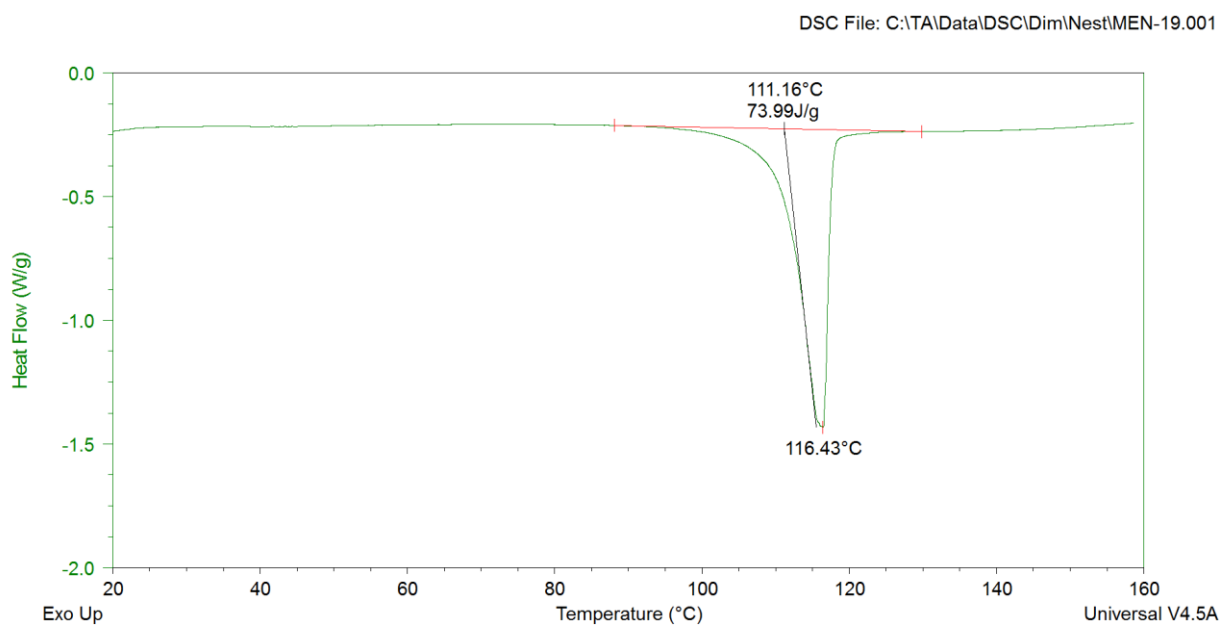


Figure S25. DSC thermogram of 2-(4-phenoxyphenoxy)-*N'*-[(2*S*,5*R*)-5-methyl-2-(propan-2-yl)cyclohexylidene]acetohydrazide (**3e**).

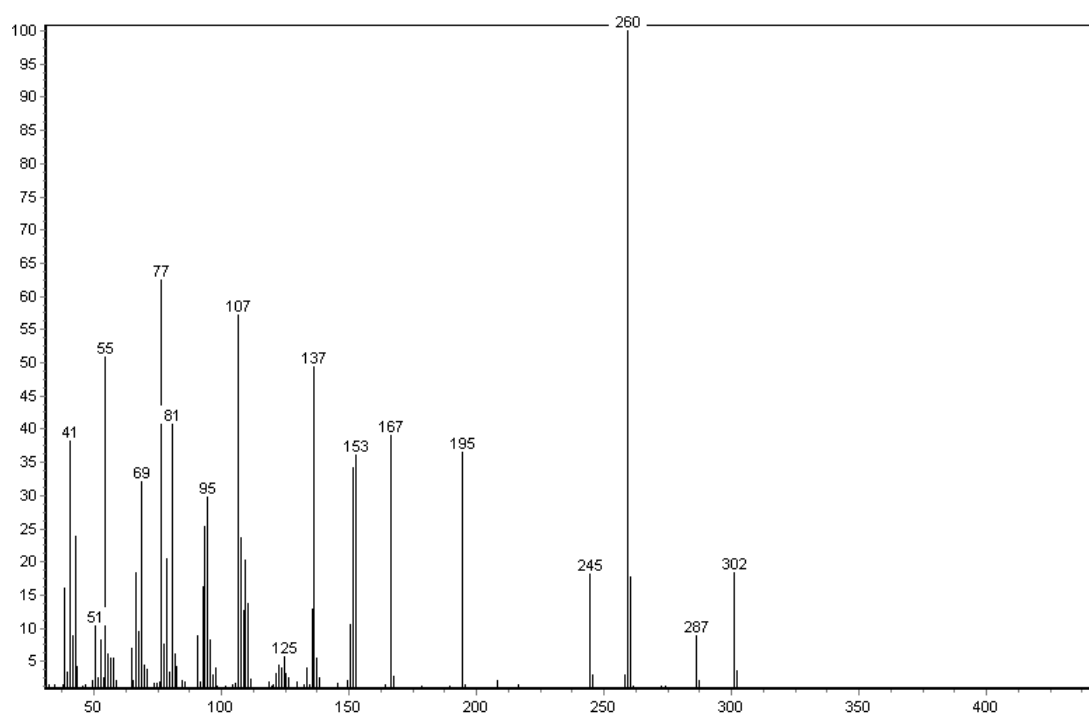


Figure S26. EI mass spectra of 2-phenoxy-*N'*-[(2*S*,5*R*)-5-methyl-2-(propan-2-yl)cyclohexylidene]acetohydrazide (**3a**).

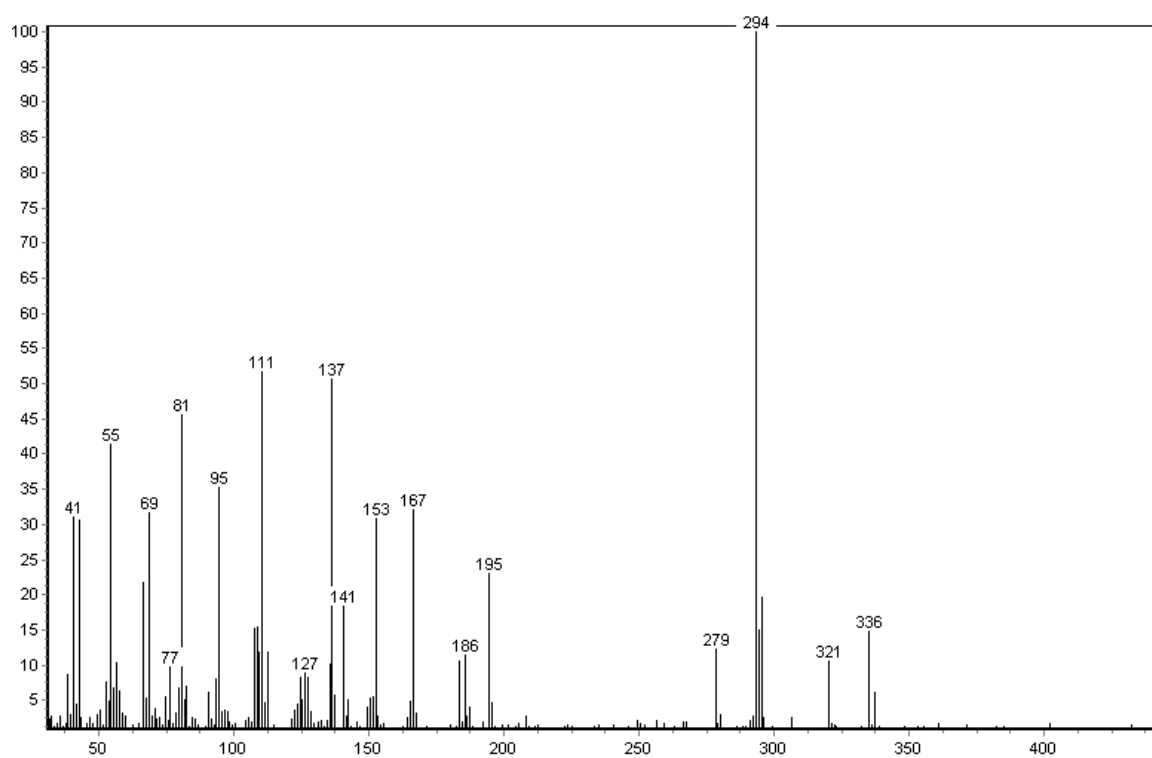


Figure S27. EI mass spectra of 2-(4-chlorophenoxy)-*N'*-[(2*S*,5*R*)-5-methyl-2-(propan-2-yl)cyclohexylidene]acetohydrazide (**3b**).

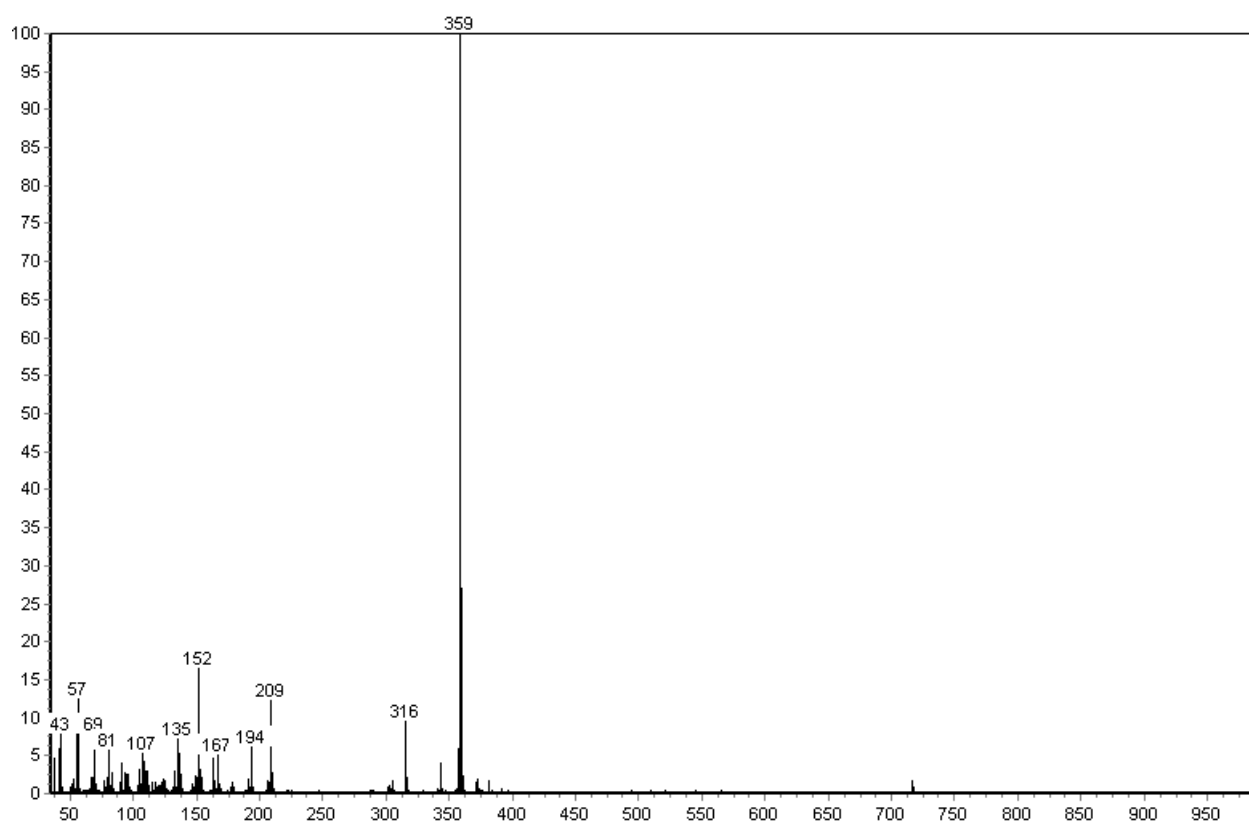


Figure S28. FAB mass spectra of 2-(4-*tert*-butylphenoxy)-*N'*-[(2*S*,5*R*)-5-methyl-2-(propan-2-yl)cyclohexylidene]acetohydrazide (**3c**).

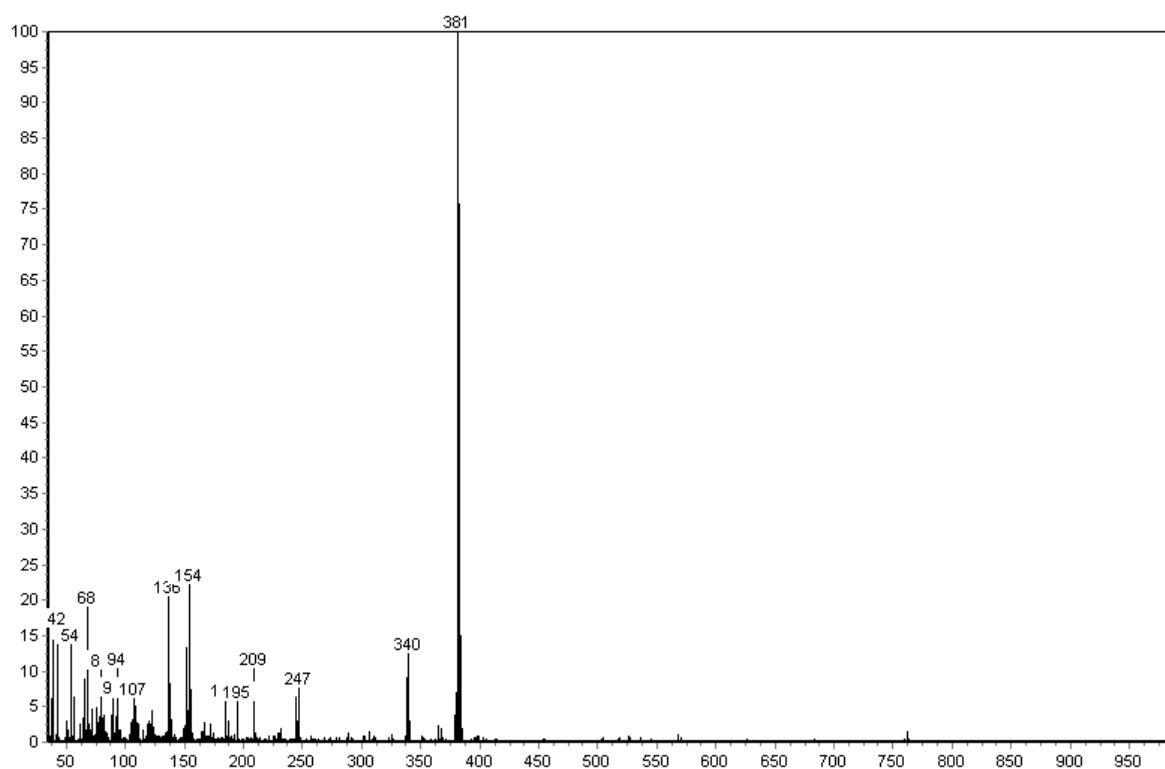


Figure S29. FAB mass spectra of 2-(4-bromophenoxy)-*N'*-[(2*S*,5*R*)-5-methyl-2-(propan-2-yl)cyclohexylidene]acetohydrazide (**3d**).

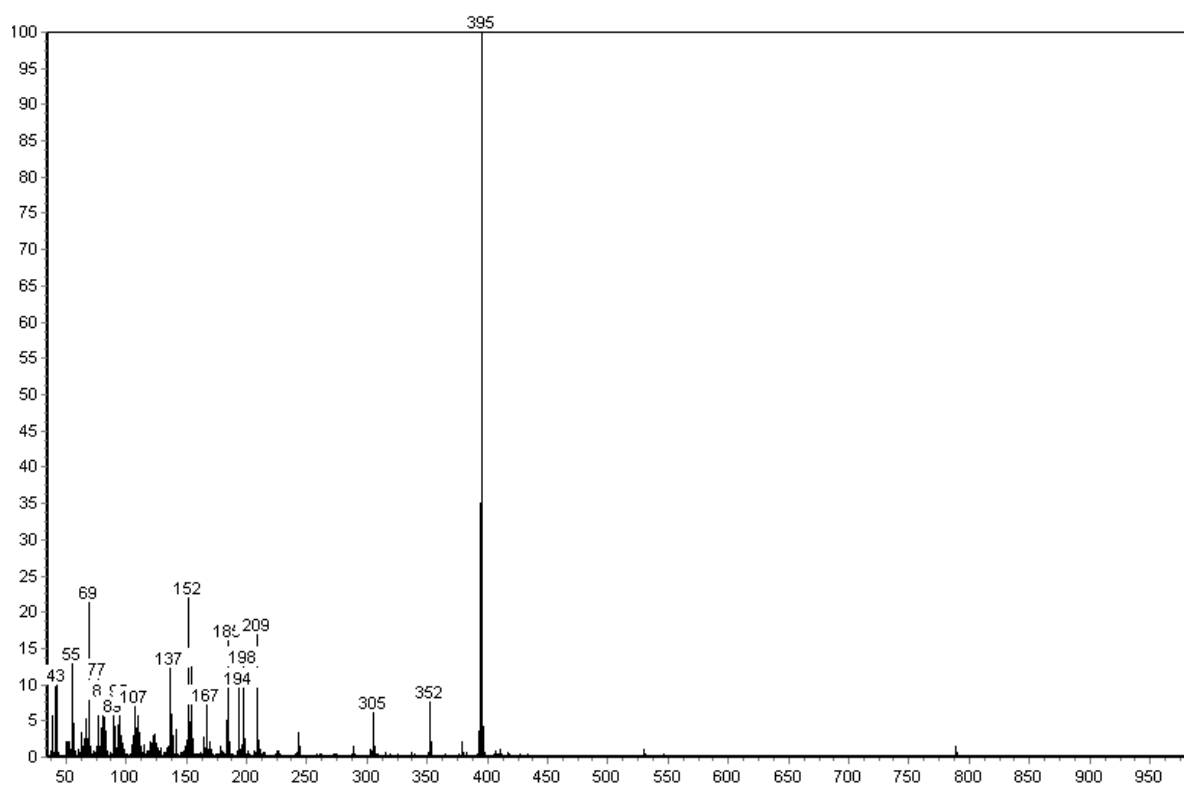


Figure S30. FAB mass spectra of 2-(4-phenoxyphenoxy)-*N'*-[(2*S*,5*R*)-5-methyl-2-(propan-2-yl)cyclohexylidene]acetohydrazide (**3e**).

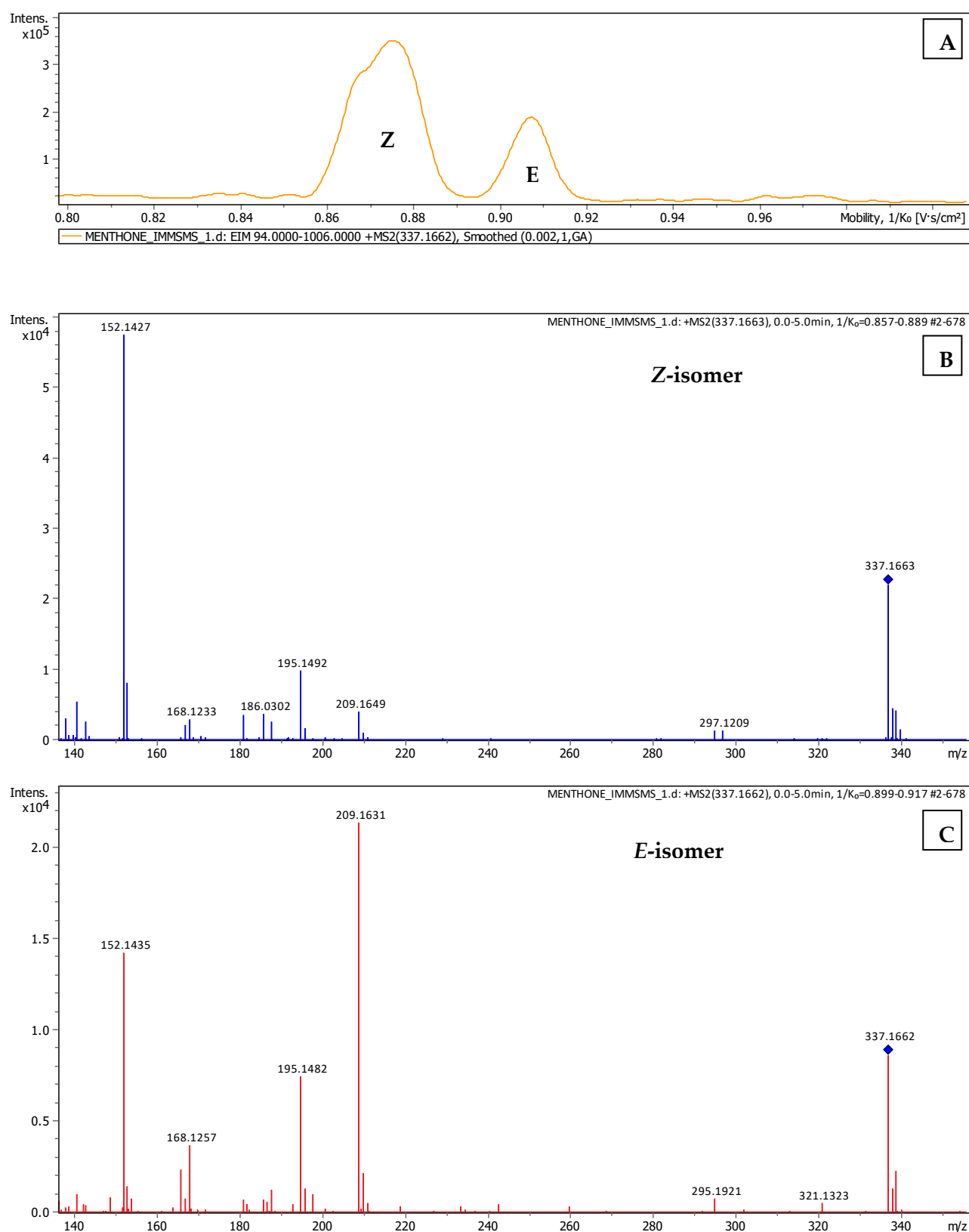


Figure S31. Extracted ion mobiliogram of compound **3b** (m/z 337.16) obtained from TIMS-TOF-MS (A), MS/MS spectrum of the *Z* isomer (B) and MS/MS spectrum of the *E* isomer (C).