Electronic Supplementary Material (ESI) for Organic & Biomolecular Chemistry.

New synthetic and biological evaluation of uniflorine A derivatives: towards specific insect trehalase inhibitors

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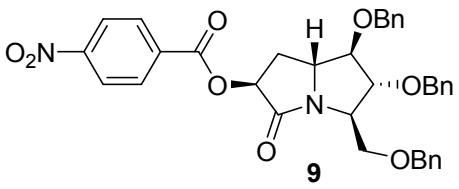
‡ These authors contributed equally to this work.

Supporting Information

Table of Contents



9

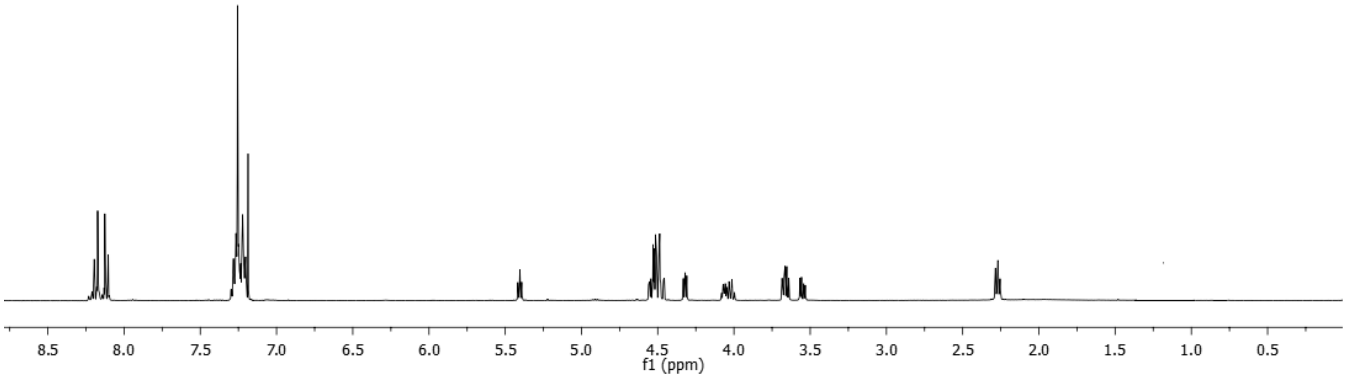


Figure S1. ^{1}H-NMR spectrum of compound 9 (400 MHz, $CDCl_3$).

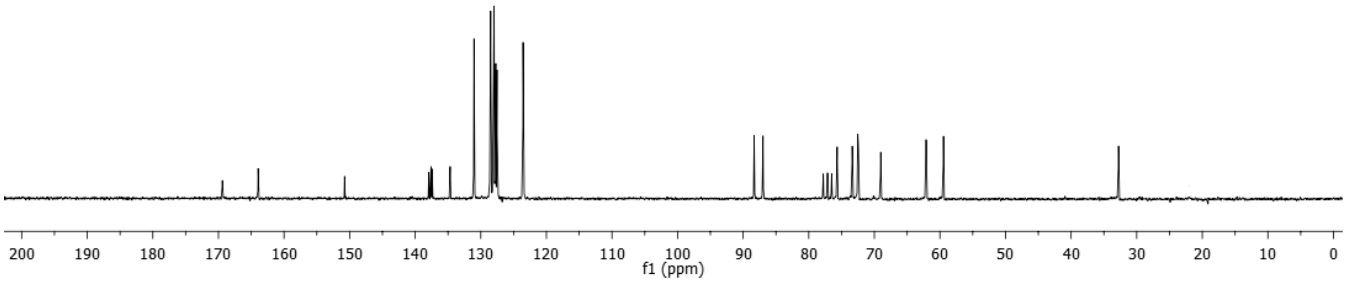
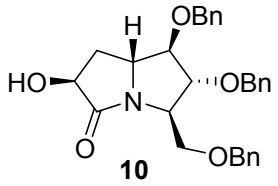


Figure S2. ^{13}C-NMR spectrum of compound 9 (50 MHz, $CDCl_3$).



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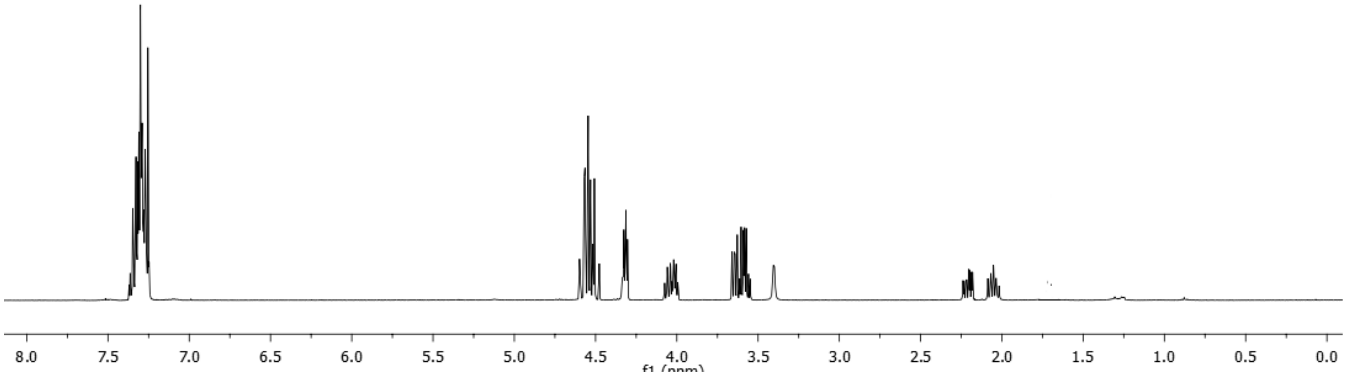


Figure S3. ^{1}H-NMR spectrum of compound 10 (400 MHz, $CDCl_3$).

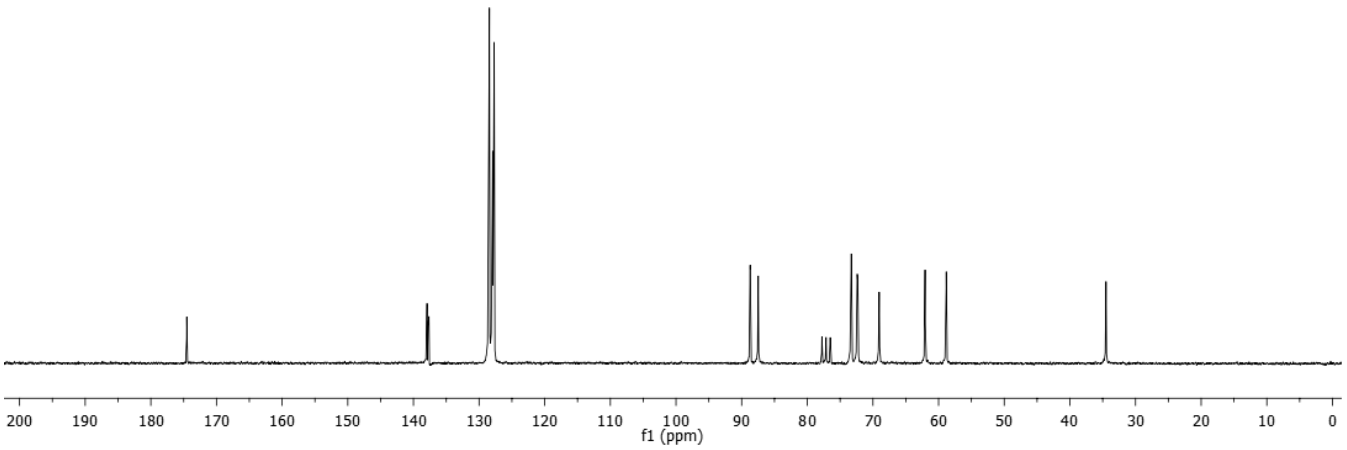
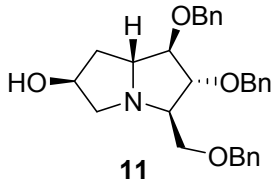


Figure S4. ^{13}C-NMR spectrum of compound 10 (50 MHz, $CDCl_3$).



11

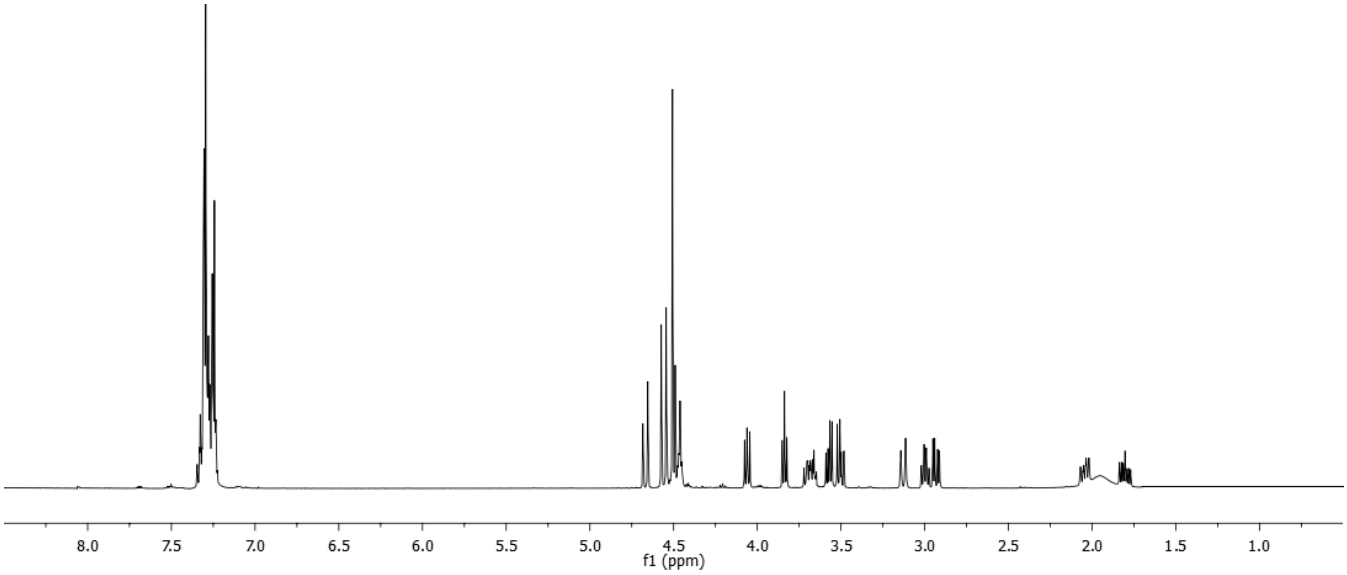


Figure S5 . ^{1}H-NMR spectrum of compound 11 (400 MHz, $CDCl_3$).

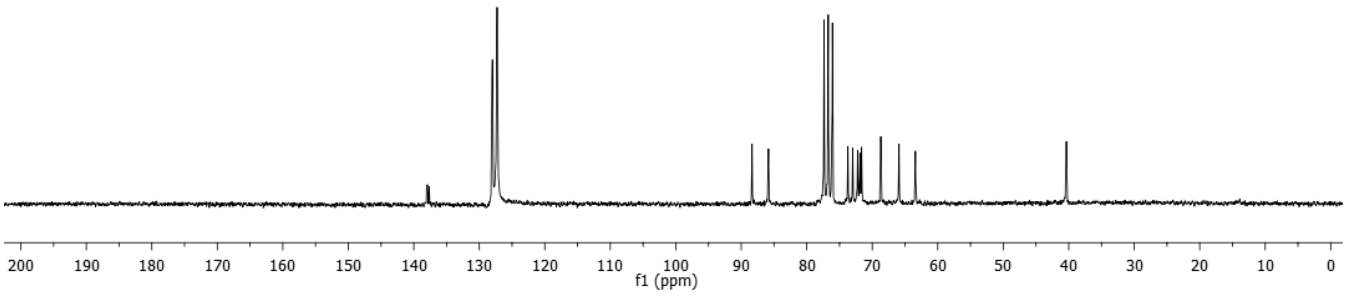
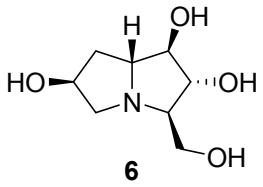


Figure S6. ^{13}C-NMR spectrum of compound 11 (50 MHz, $CDCl_3$).



6

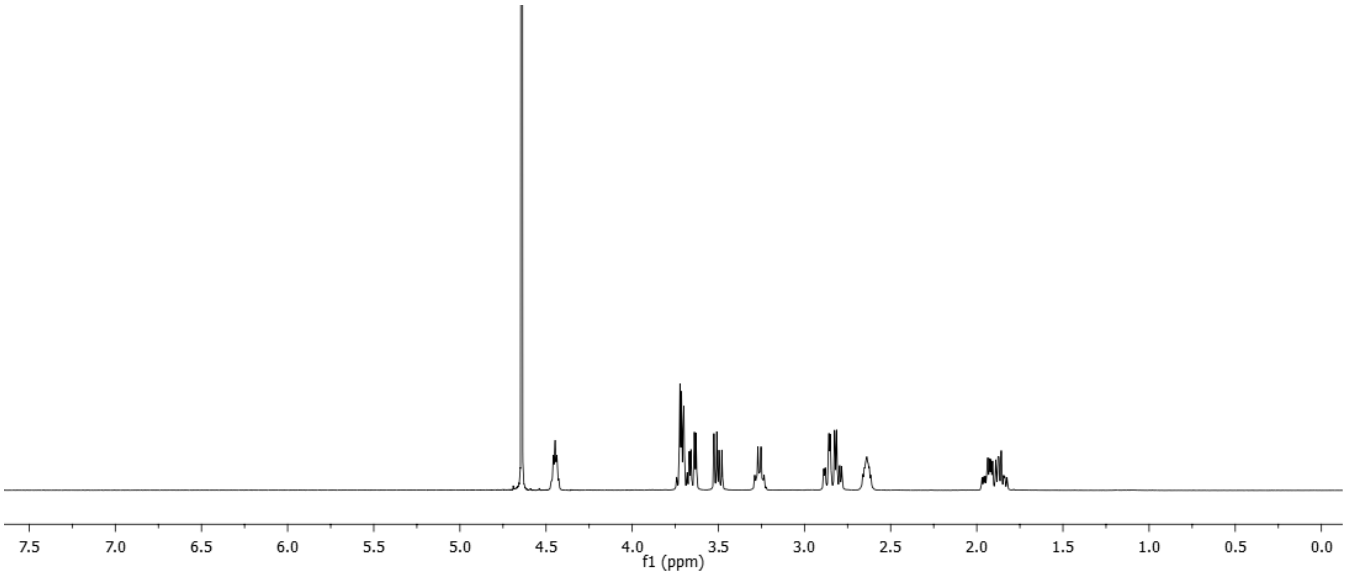


Figure S7. ^{1}H-NMR spectrum of compound 6 (400 MHz, D_2O).

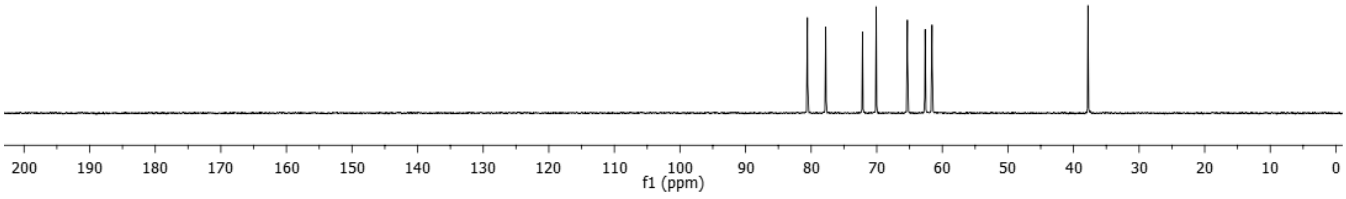


Figure S8. ^{13}C-NMR spectrum **of compound 6 (50 MHz, D_2O).**

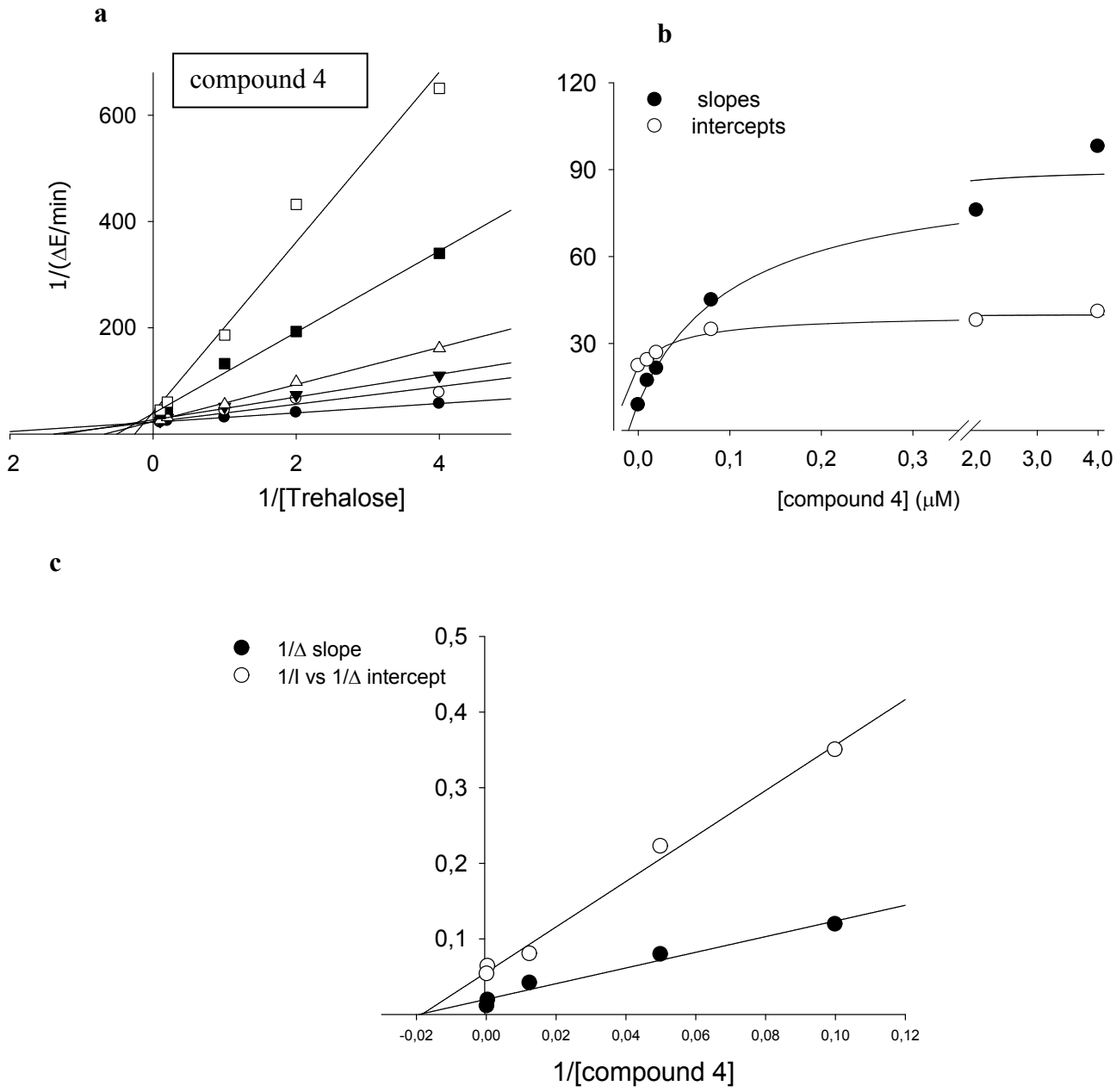


Figure S9. Inhibition kinetics of midge trehalase in the presence of compound 4. a) double reciprocal plot in the presence of different fixed inhibitor concentrations (10, 20, 80, 2000 and 4000 nM); b) replot of the slopes and the intercepts of each reciprocal plot versus the corresponding inhibitor concentration; c) secondary replot of 1/Δ slope and 1/Δ intercept versus the reciprocal inhibitor concentration.

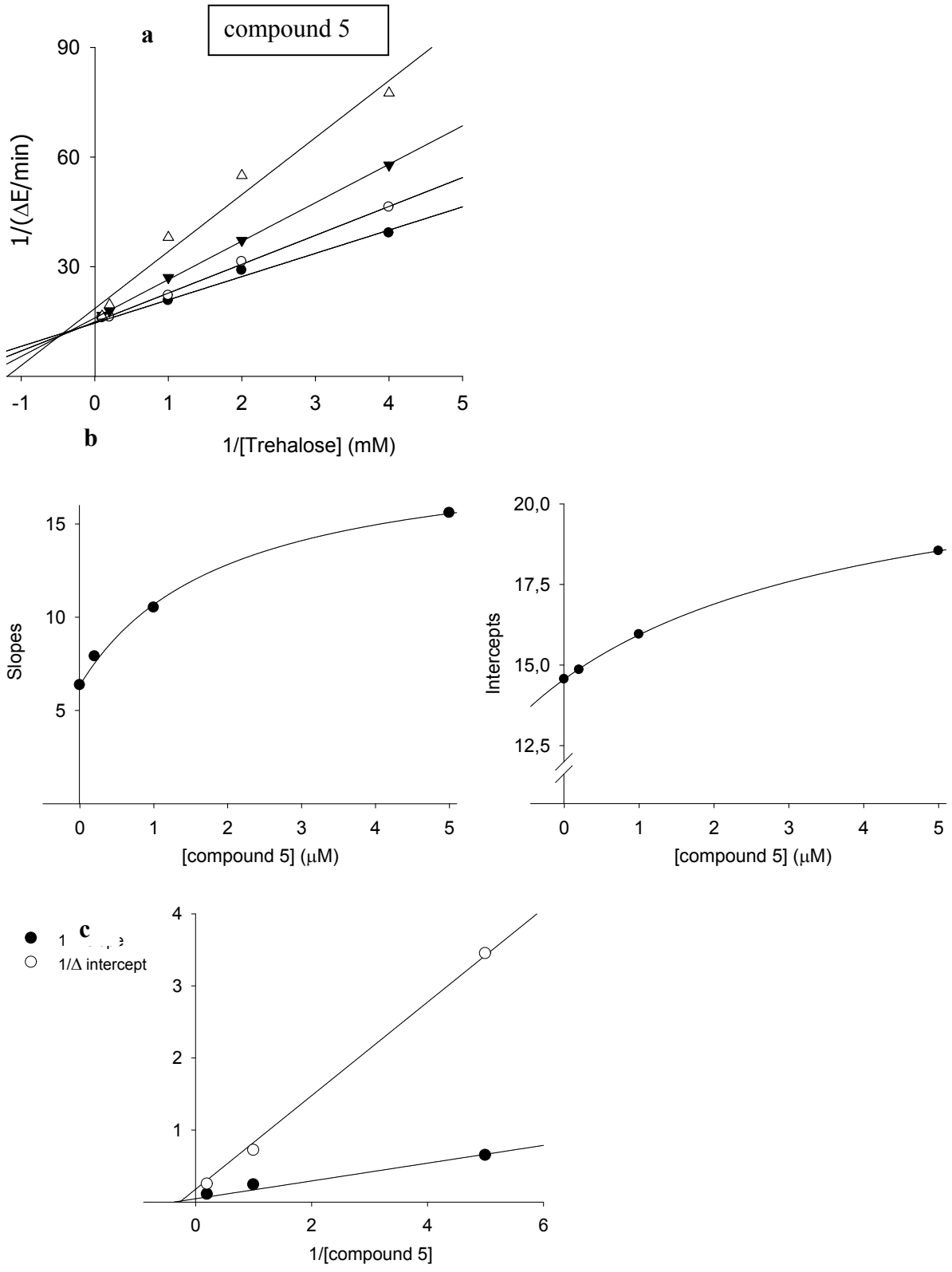


Figure S10. Inhibition kinetics of midge trehalase in the presence of compound 5. a) double reciprocal plot in the presence of different fixed inhibitor concentrations (0.2, 1, 5 μM); b) replot of the slopes and the intercepts of each reciprocal plot versus the corresponding inhibitor concentration; c) secondary replot of 1/Δ slope and 1/Δ intercept versus the reciprocal inhibitor concentration.

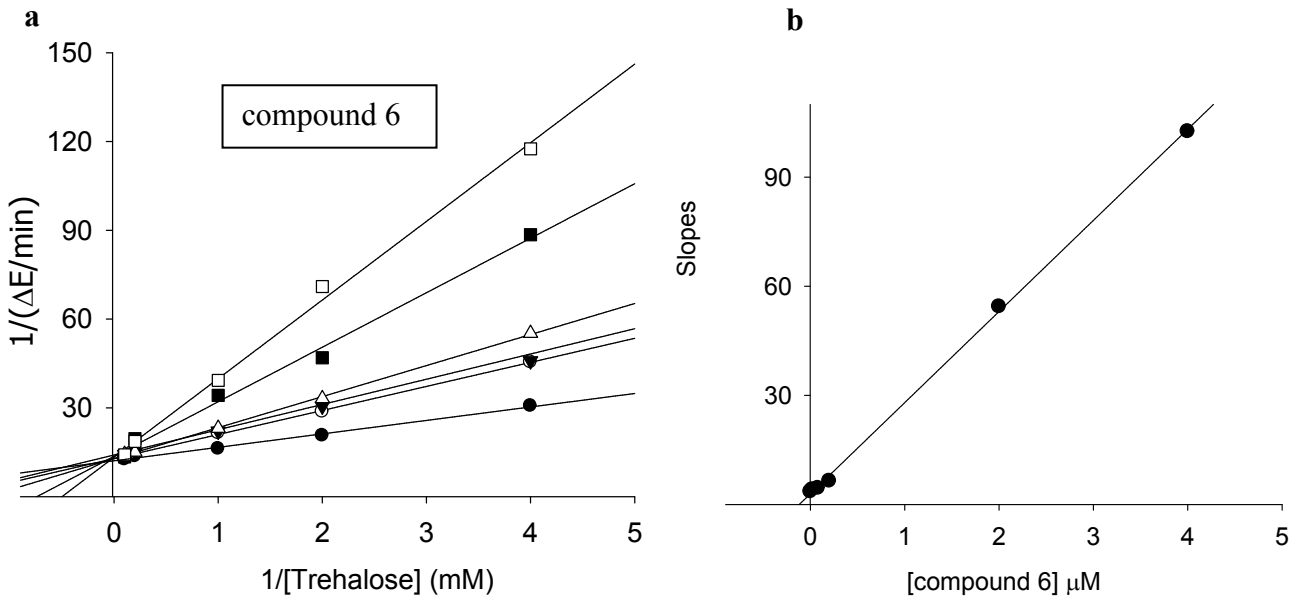


Figure S11. Inhibition kinetics of midge trehalase in the presence of compound 6. a) double reciprocal plot in the presence of different fixed inhibitor concentrations (20, 80, 200, 2000 and 4000 nM); b) replot of the slopes of each reciprocal plot versus the corresponding inhibitor concentration.

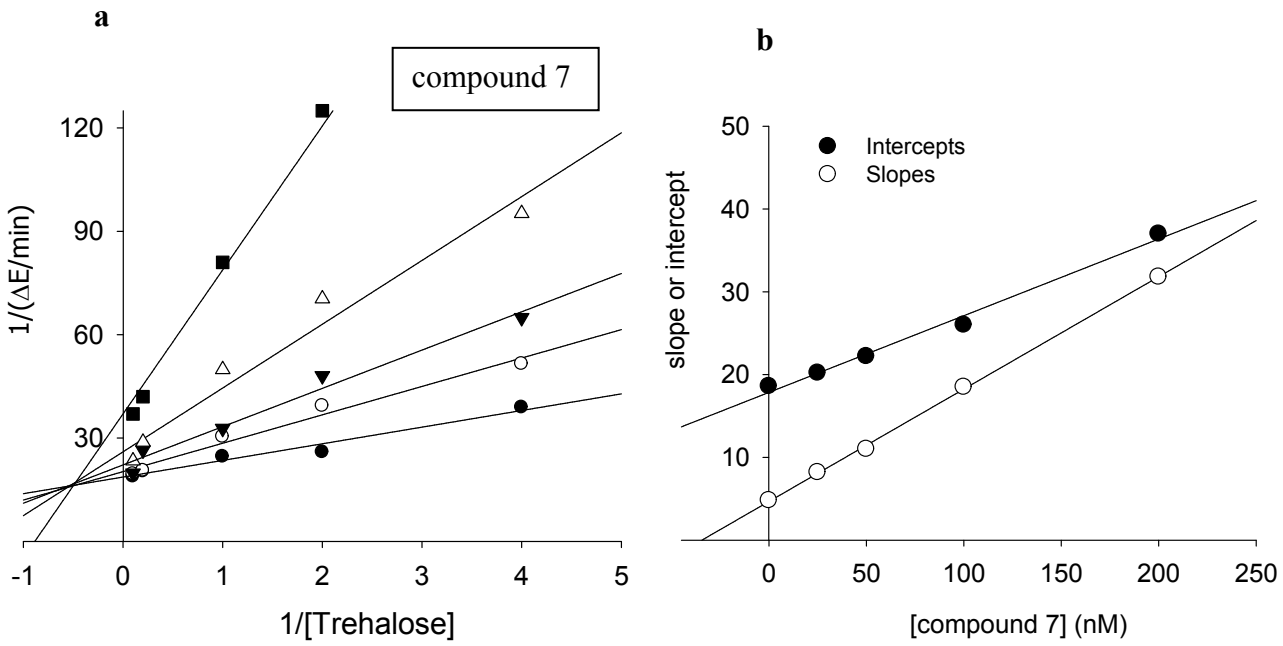


Figure S12. Inhibition kinetics of midge trehalase in the presence of compound 7. a) double reciprocal plot in the presence of different fixed inhibitor concentrations (20, 50, 100, and 200 nM); b) replot of the slopes and the intercepts of each reciprocal plot versus the corresponding inhibitor concentration.

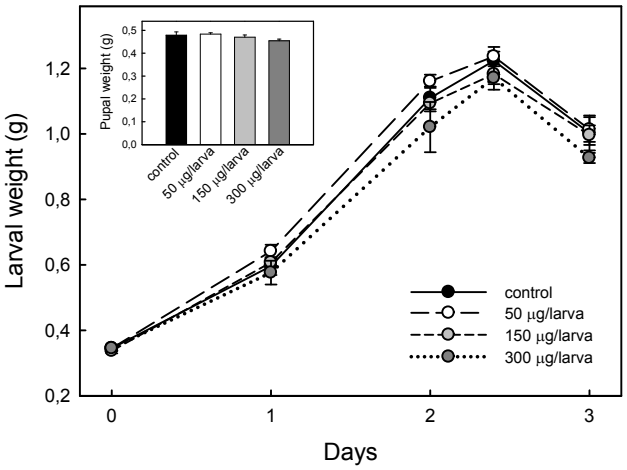


Figure S13. ***S. littoralis*** **larval and pupal weight after intra-hemocoelical injection of derivative 6. Each experimental group consisted of 16 animals.**