

The Asymmetric Total Synthesis of (+)- and (-)-Trypargine via Noyori Asymmetric Transfer Hydrogenation

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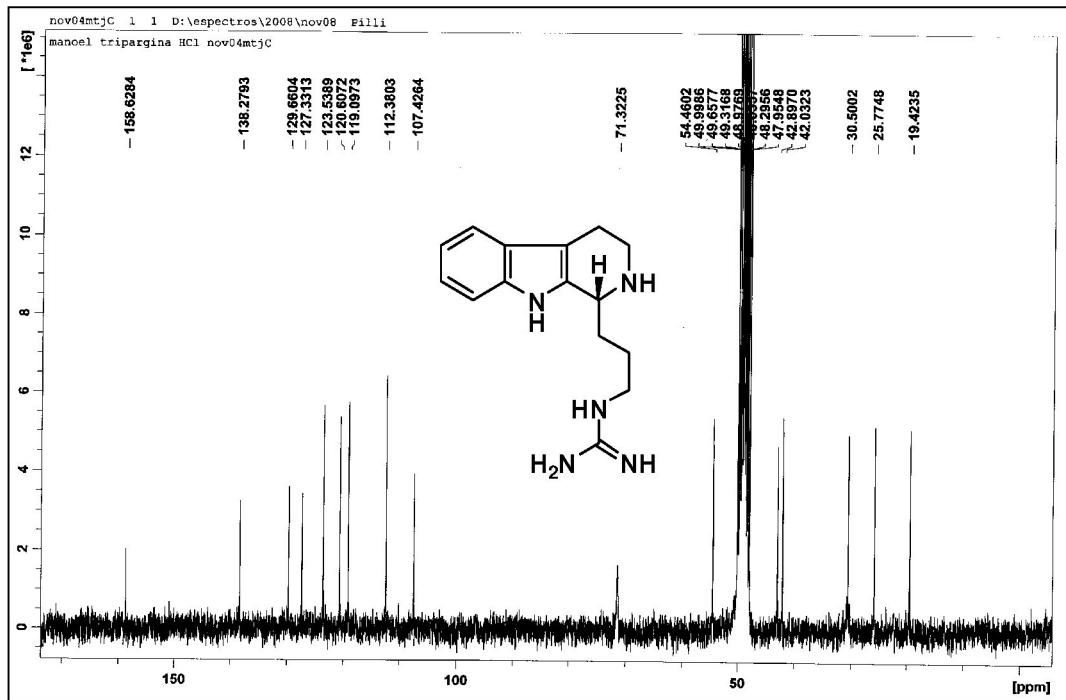


Figure S1. ¹H NMR for compound 3 (300 MHz, CD₃OD).

(+)-(R)-Tryptagine Hydrochloride (**1a**)

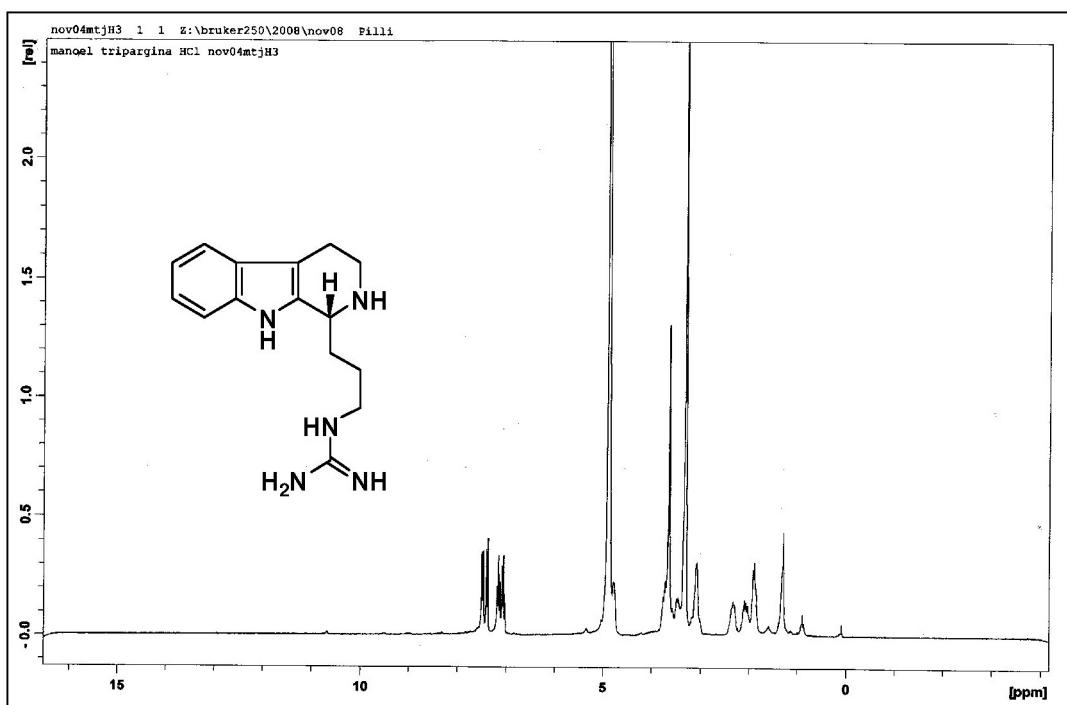


Figure S2. ¹³C NMR for compound 3 (75 MHz, CD₃OD).

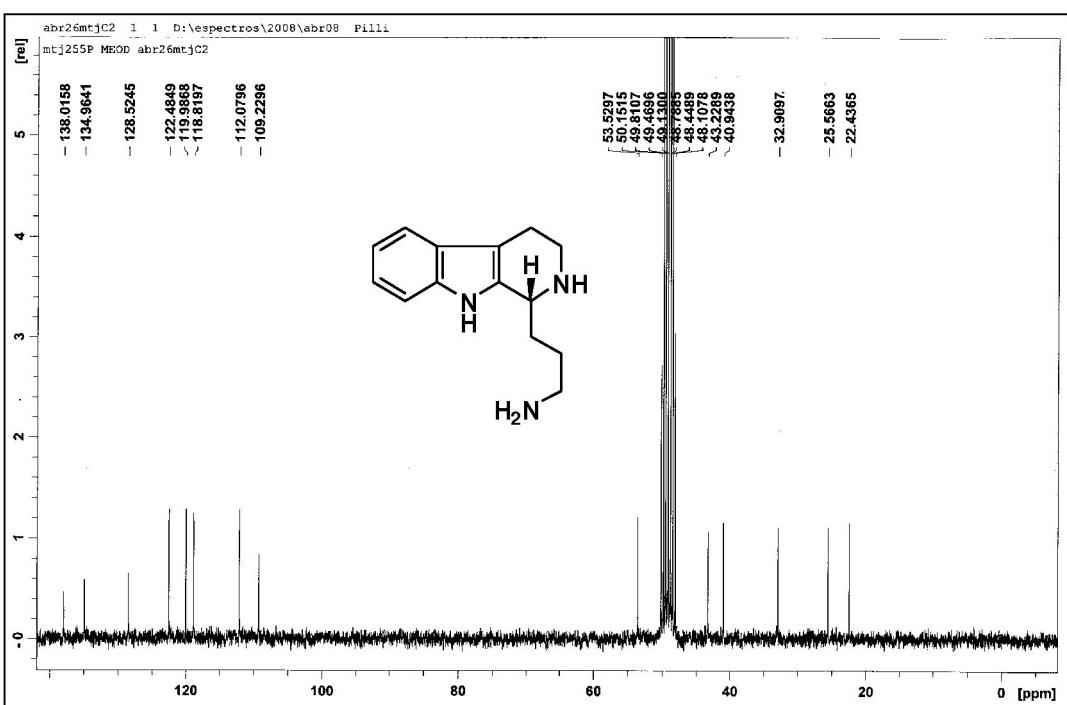


Figure S3. ¹H NMR for compound 4 (250 MHz, CD₃OD).

{3-[*(1R)*-2,3,4,9-tetrahydro-1*H*- β -carbolin-1-yl]propyl}amine (**11a**)

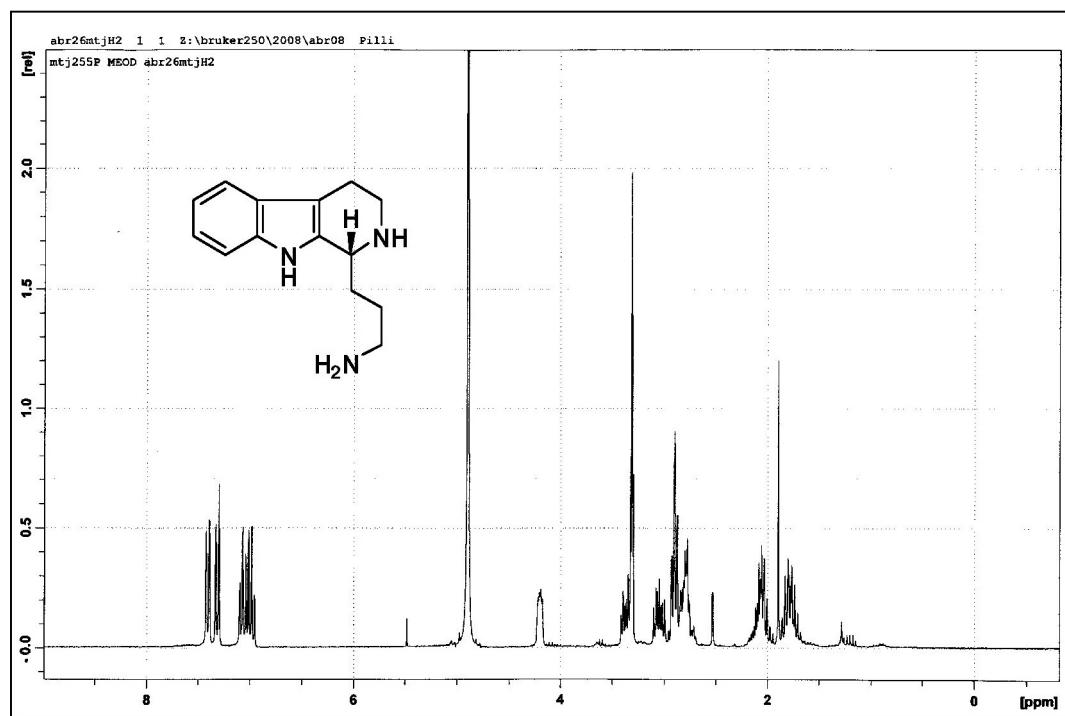


Figure S4. ¹³C NMR for compound 4 (62,5 MHz, CD₃OD).

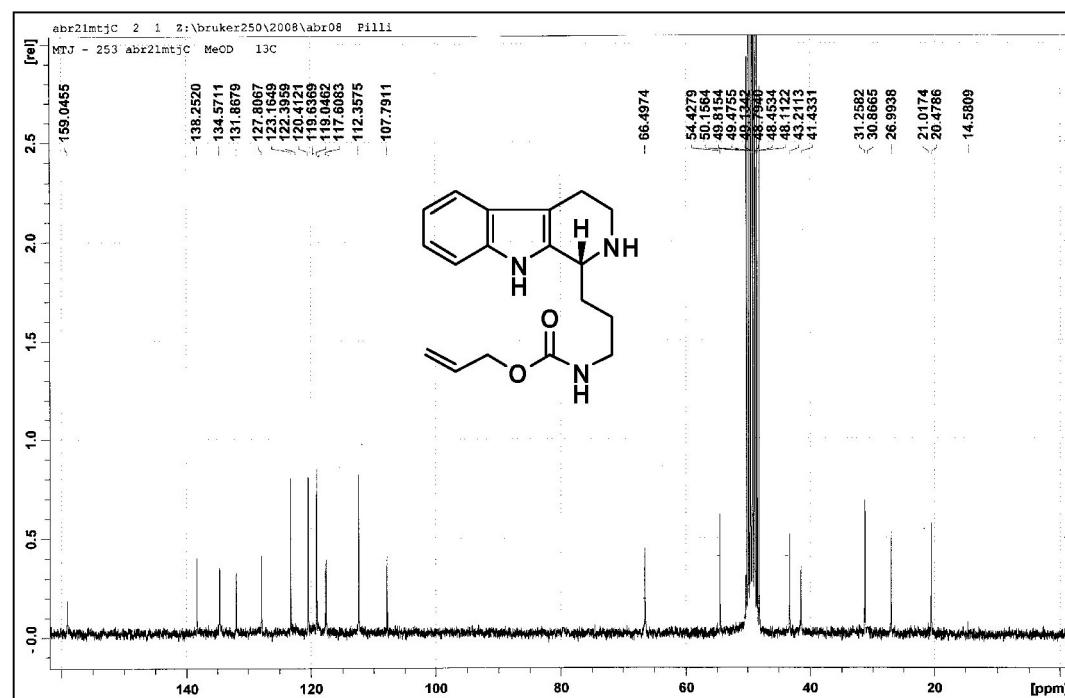


Figure S5. ¹H NMR for compound 6 (250 MHz, CDCl₃).

Allyl {3-[(1R)-2,3,4,9-tetrahydro-1*H*- β -carbolin-1-yl]propyl}carbamate (**10a**)

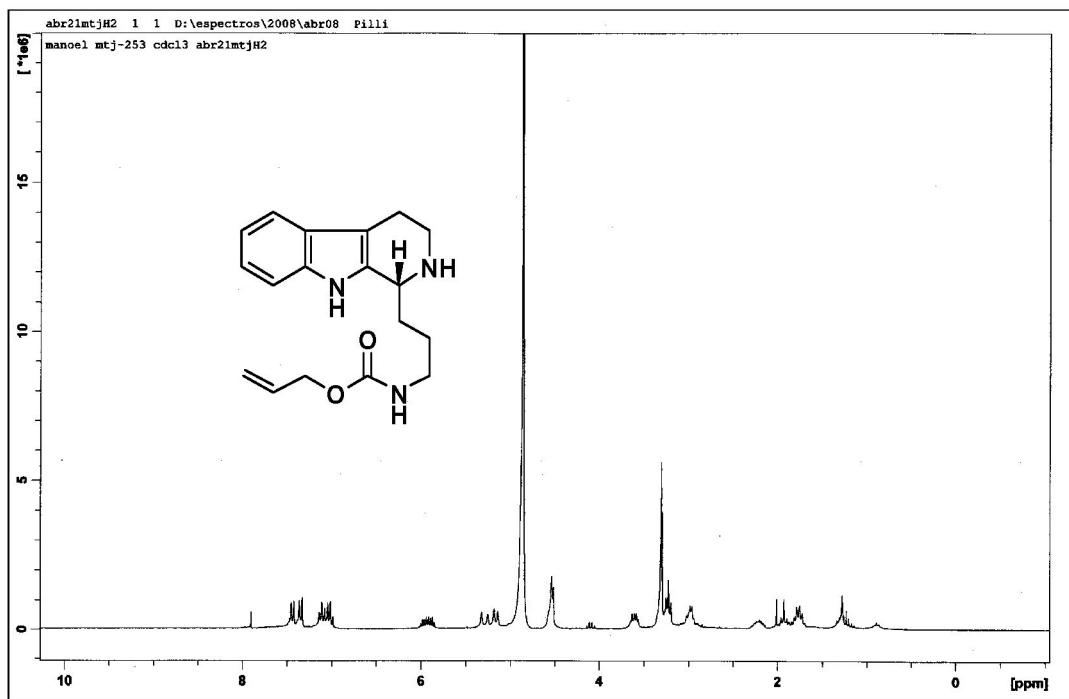


Figure S6. ¹³C NMR for compound **6** (62.5 MHz, CDCl₃).

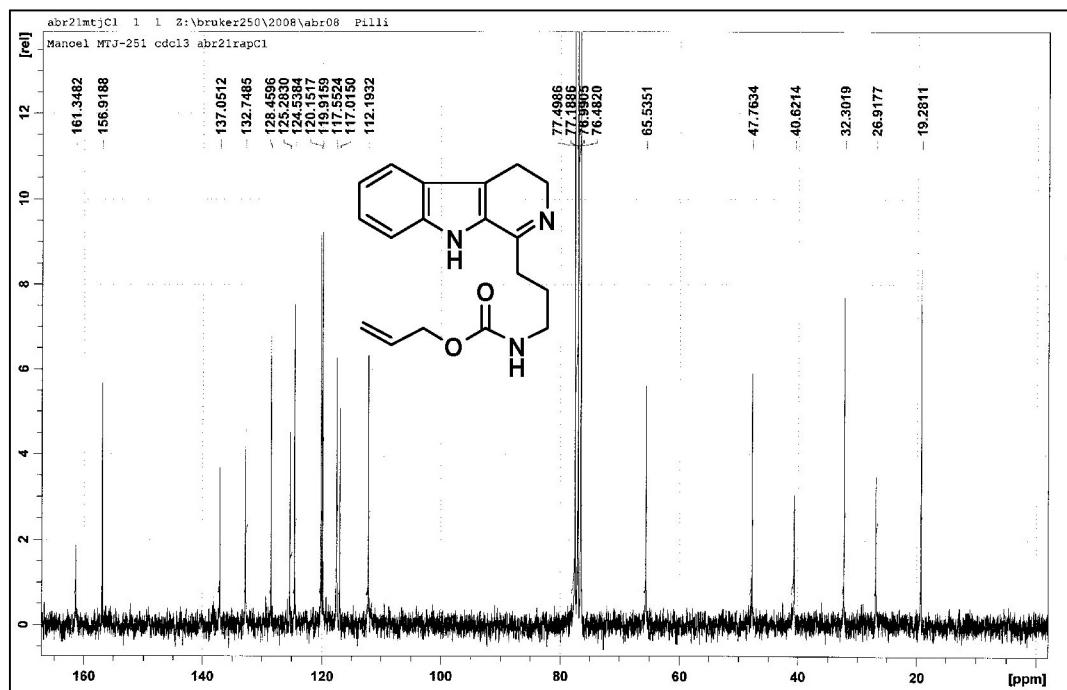


Figure S7. ¹H NMR for compound **9** (250 MHz, CDCl₃).

Allyl [3-(4,9-dihydro-3*H*-carbolin-1-yl)propyl]carbamate (9**)**

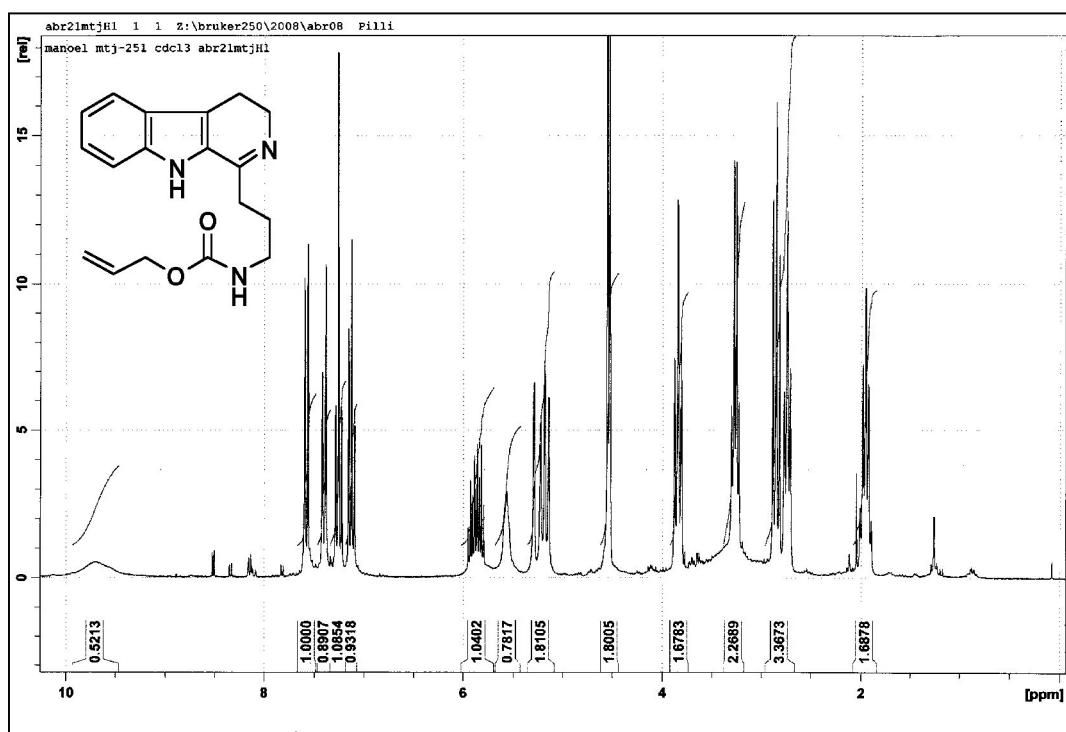


Figure S8. ^{13}C NMR for compound **9** (62.5 MHz, CDCl_3).

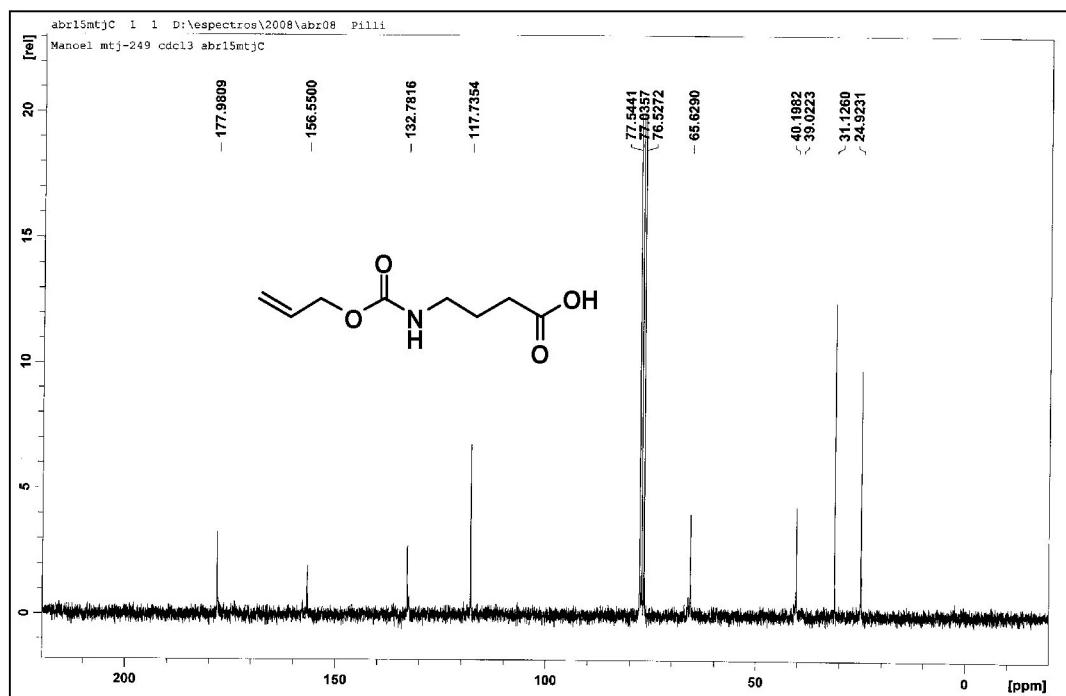


Figure S9. ^1H NMR for compound **10** (250 MHz, CD_3OD).

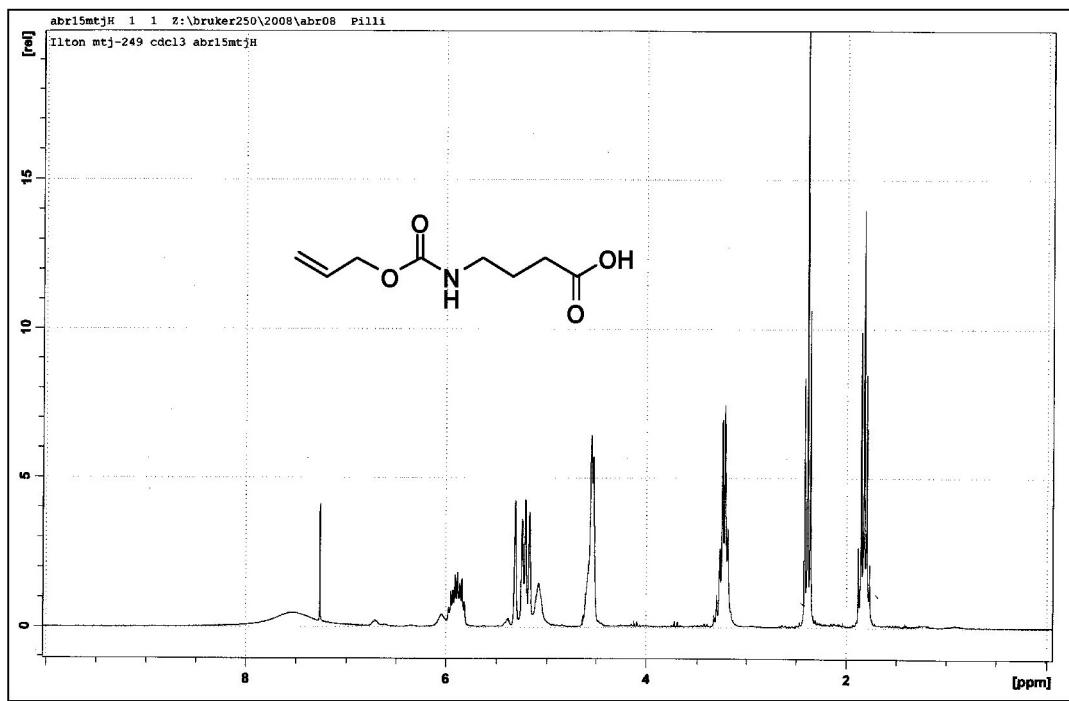
4-{[(Allyloxy)carbonyl]amino}butanoic acid (**6**)

Figure S10. ¹³C NMR for compound **10** (62,5 MHz, CD₃OD).

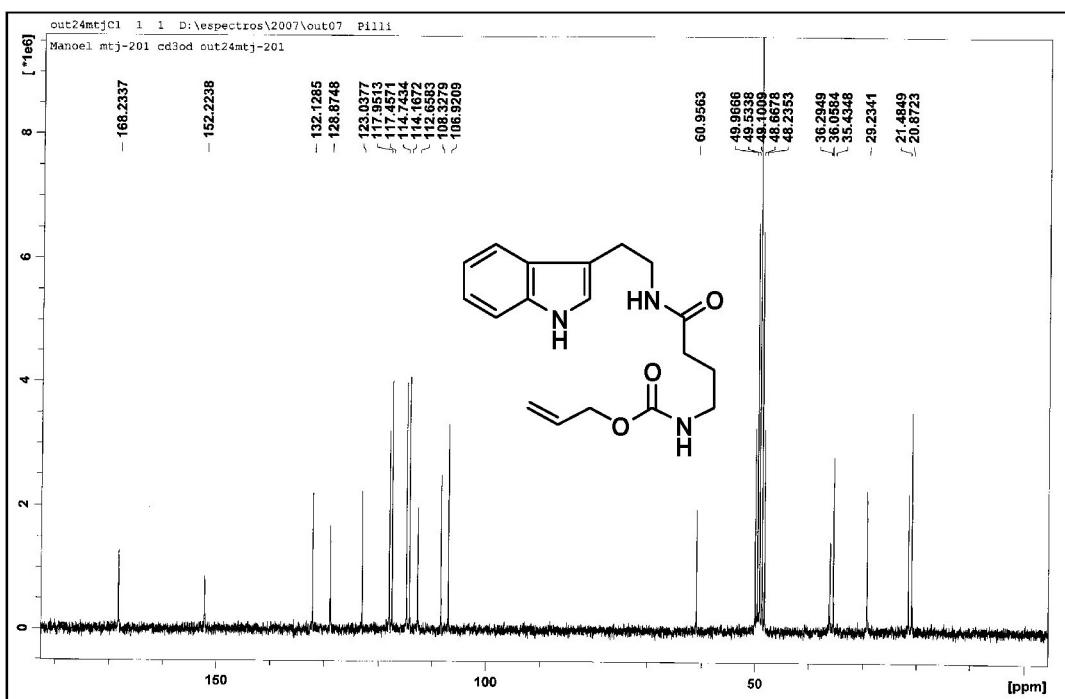


Figure S11. ¹H NMR for compound **11** (250 MHz, CD₃OD).

Allyl (4-{2-[1*H*-indol-3-yl]ethyl}amino)-4-oxobutyl)carbamate (4**)**

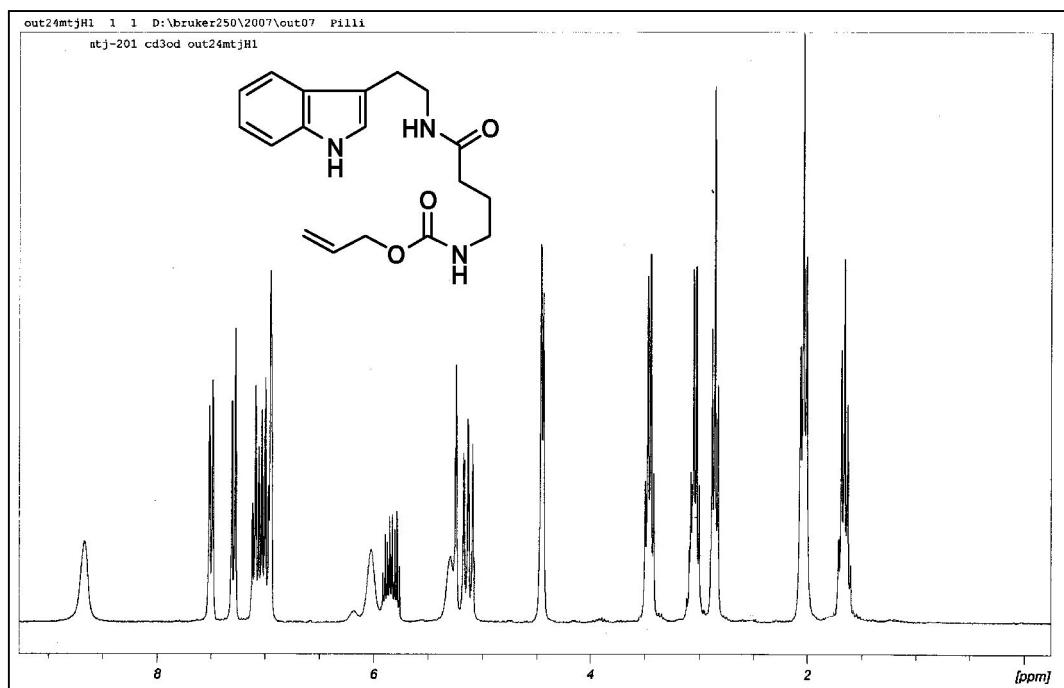


Figure S12. ^{13}C NMR for compound **11** (62.5 MHz, CD_3OD).

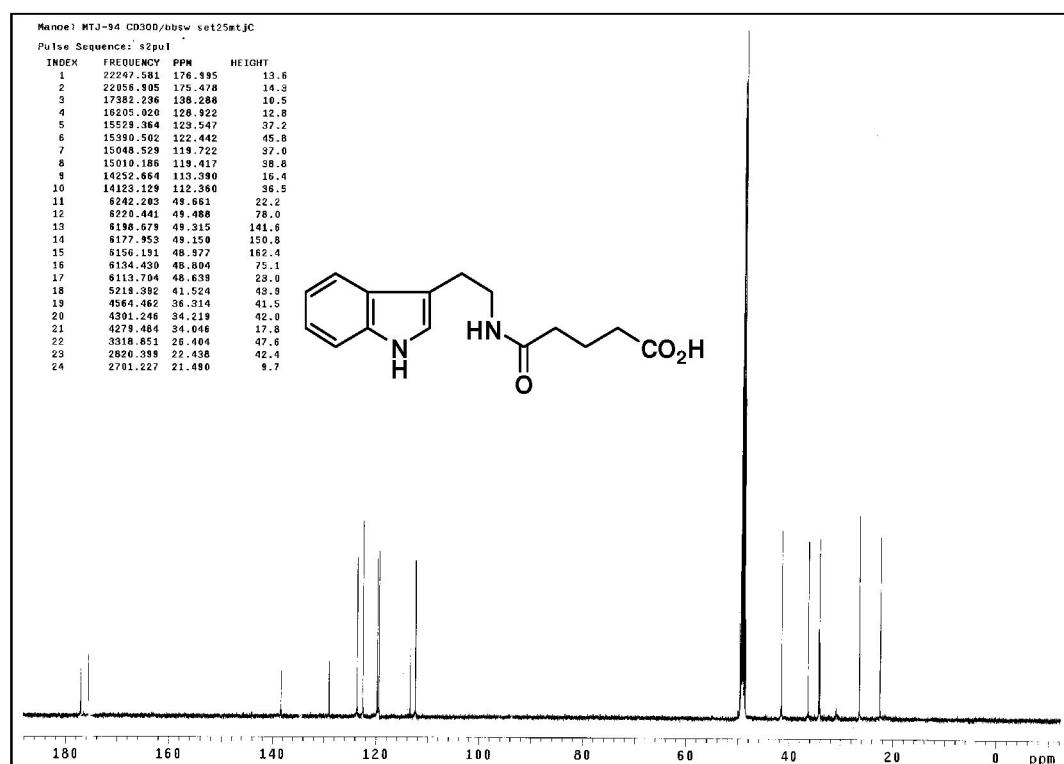


Figure S13. ^1H NMR for compound **1** (250 MHz, CD_3OD).

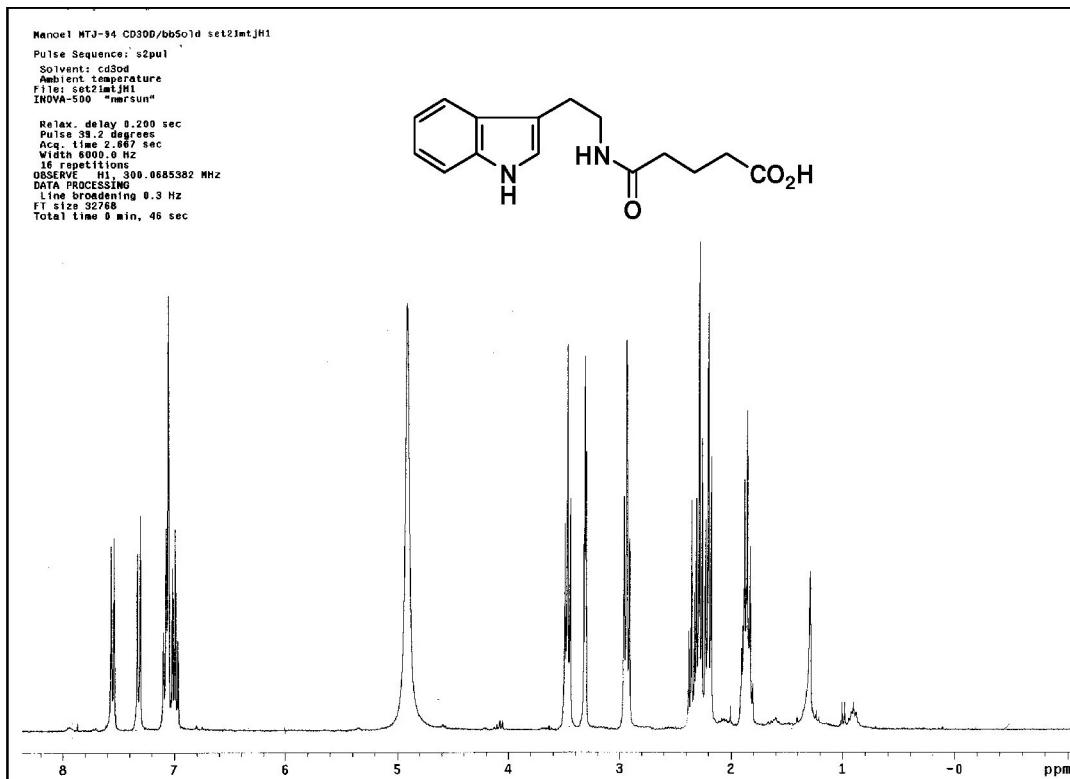
5-[2-(1*H*-indol-3-yl)ethyl]amino}-5-oxopentanoic acid (3**)**

Figure S14. ¹³C NMR for compound **1** (62.5 MHz, CD₃OD).