

Electronic Supporting Information

Synthesis of 2-[2-(*tert*-Butoxycarbonyl)-3-(acyl)guanidino]ethylamine Salts for Convergent Introduction of Acyl Guanidines

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S1: ^1H NMR and ^{13}C NMR spectra of key compounds:

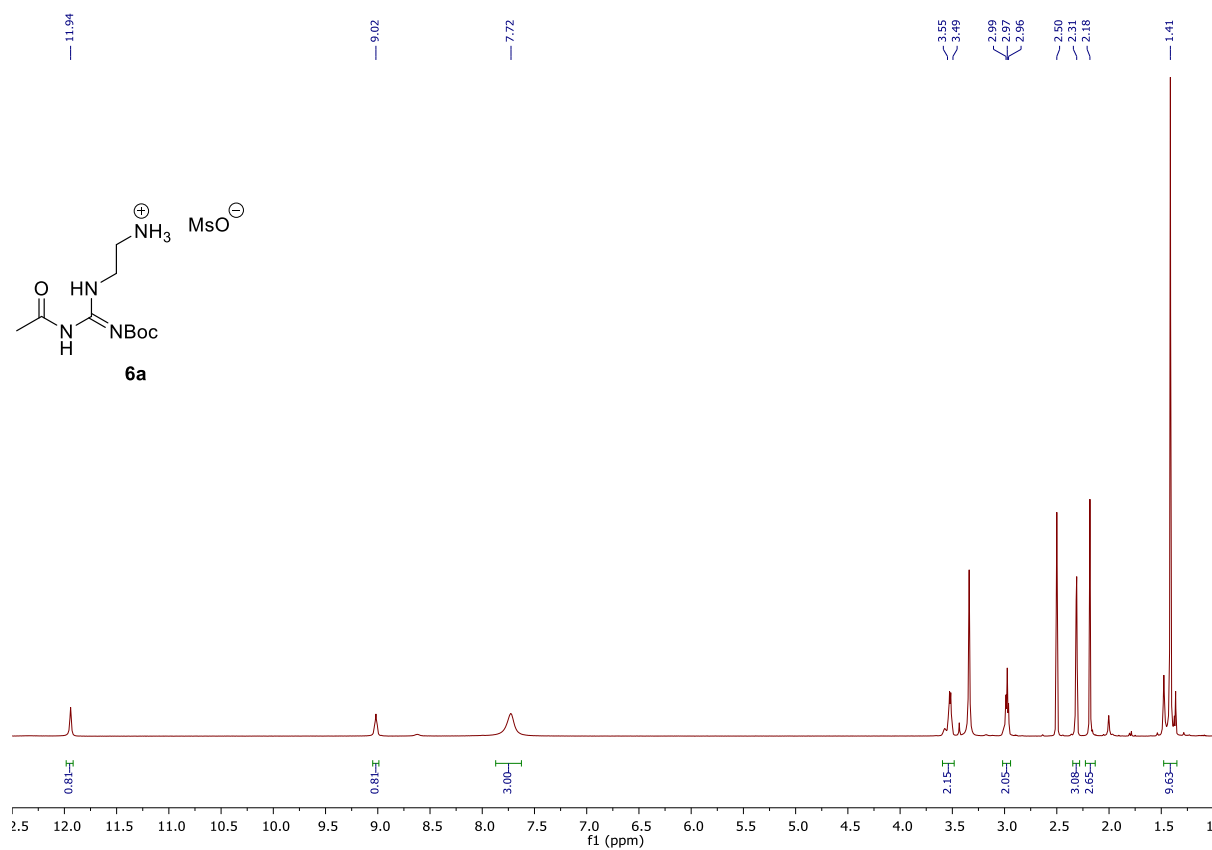


Figure S1: ^1H NMR (400 MHz) spectrum of compound **6a** in $\text{DMSO-}d_6$.

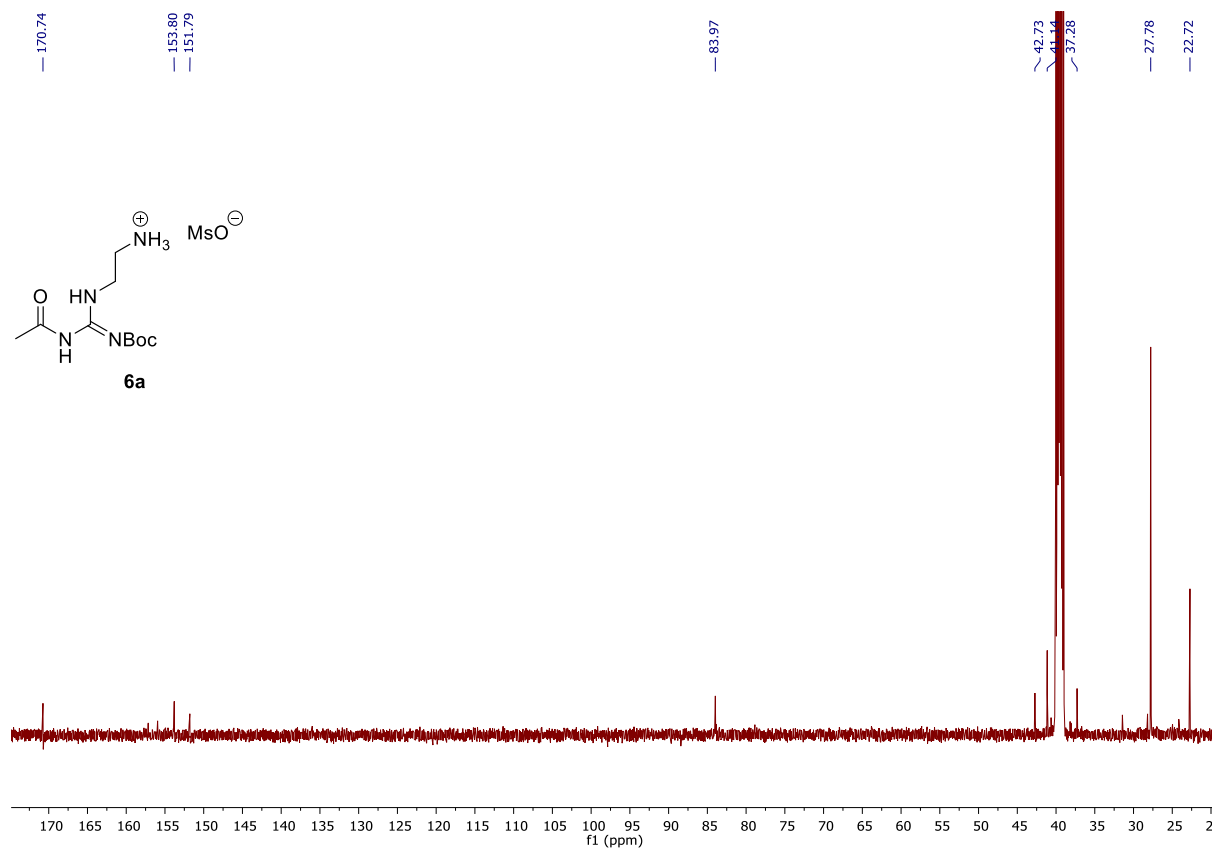


Figure S2: ^{13}C NMR (100 MHz) spectrum of compound **6a** in $\text{DMSO-}d_6$.

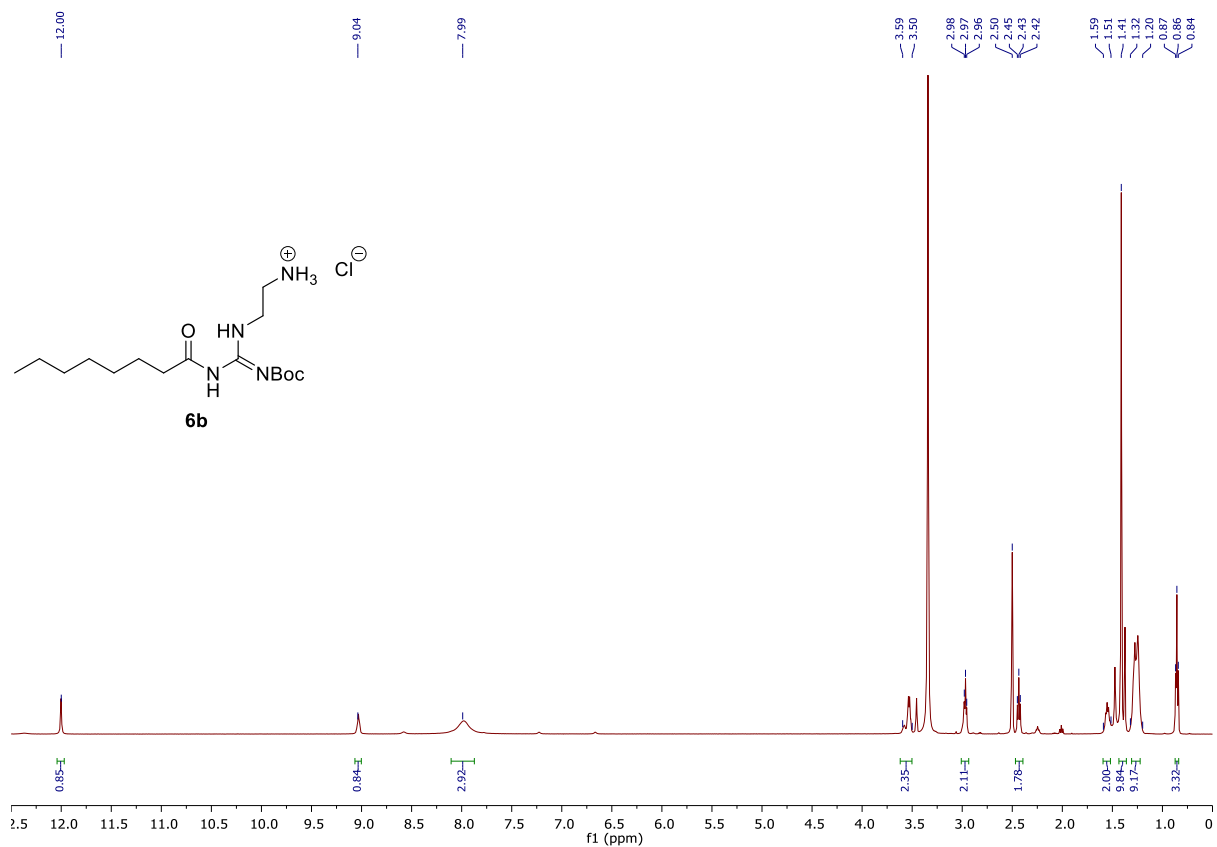


Figure S3: 1H NMR (500 MHz) spectrum of compound **6b** in $DMSO-d_6$.

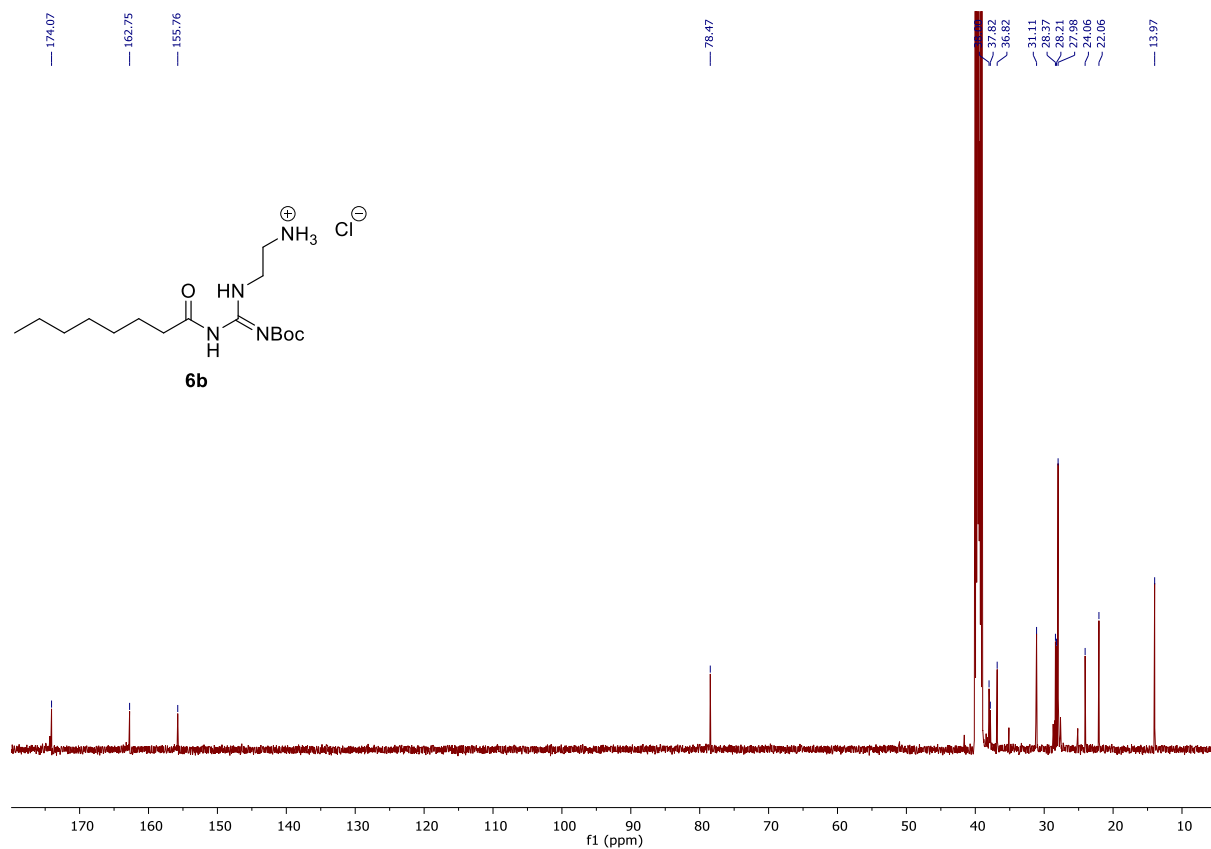


Figure S4: ¹³C NMR (125 MHz) spectrum of compound **6b** in DMSO-*d*₆.

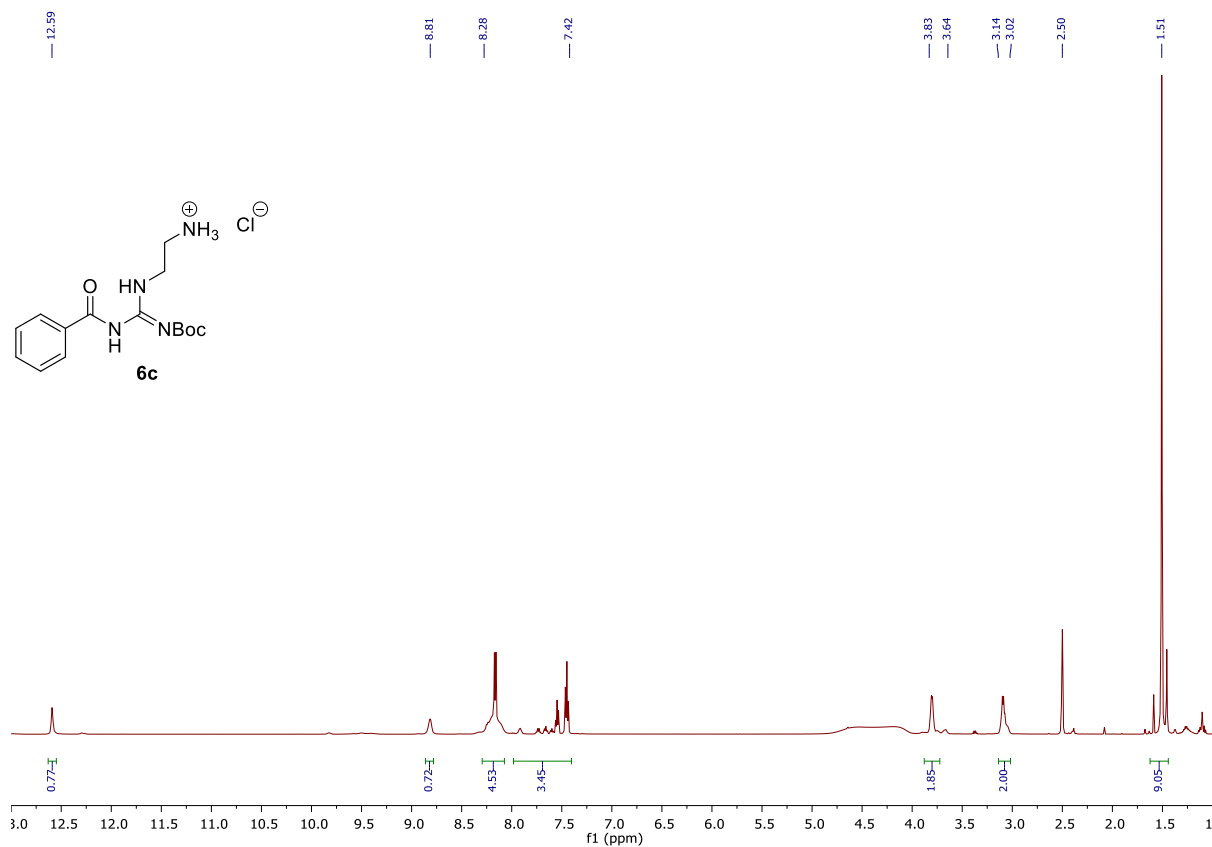


Figure S5: ^1H NMR (400 MHz) spectrum of compound **6c** in $\text{DMSO-}d_6$.

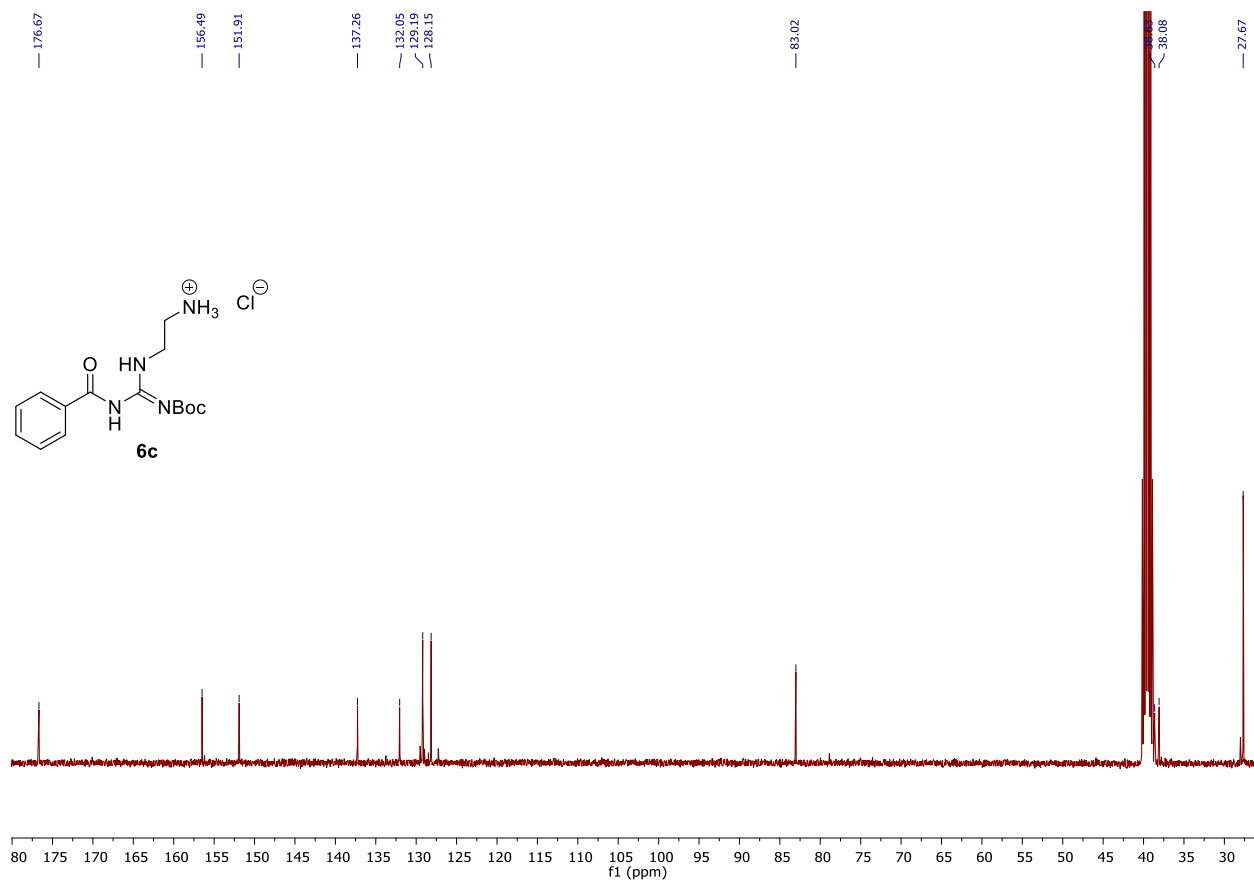


Figure S6: ¹³C NMR (100 MHz) spectrum of compound **6c** in DMSO-*d*₆.

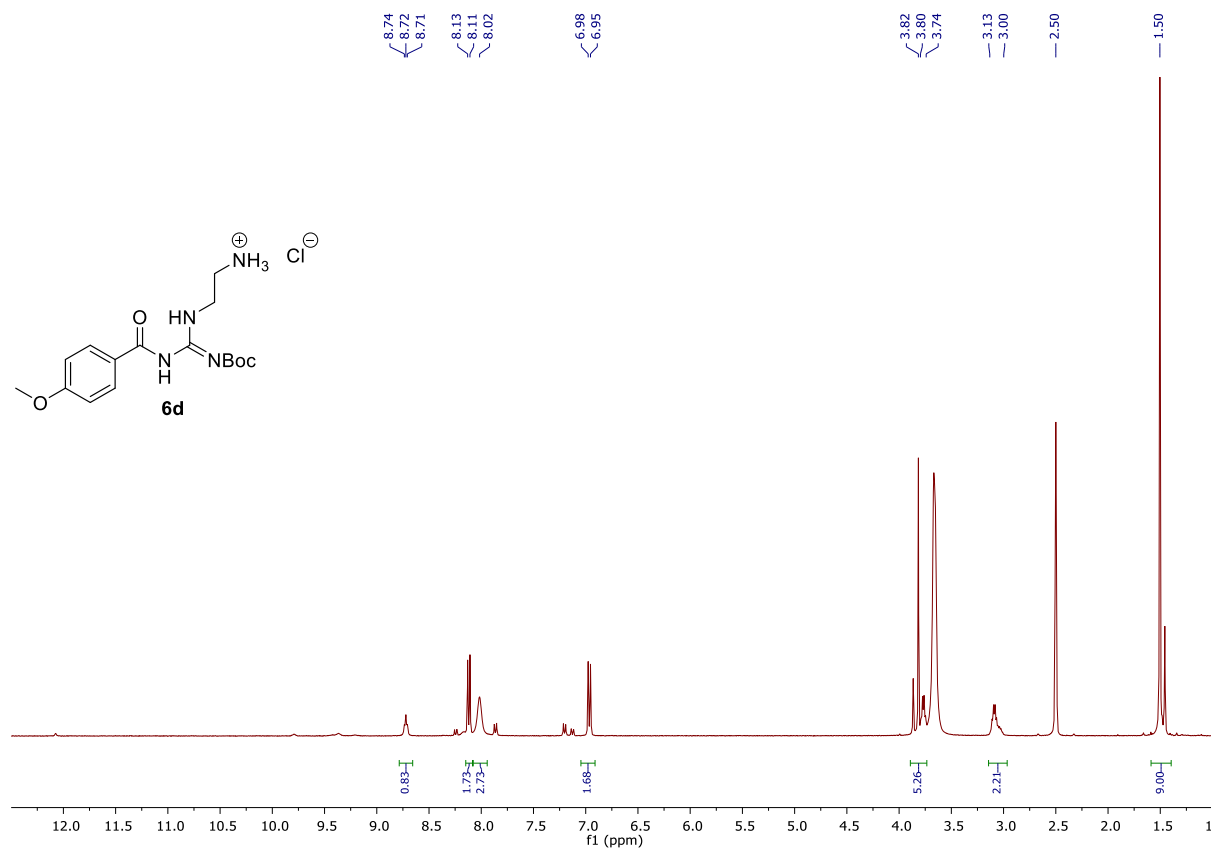


Figure S7: ¹H NMR (400 MHz) spectrum of compound **6d** in DMSO-*d*₆.

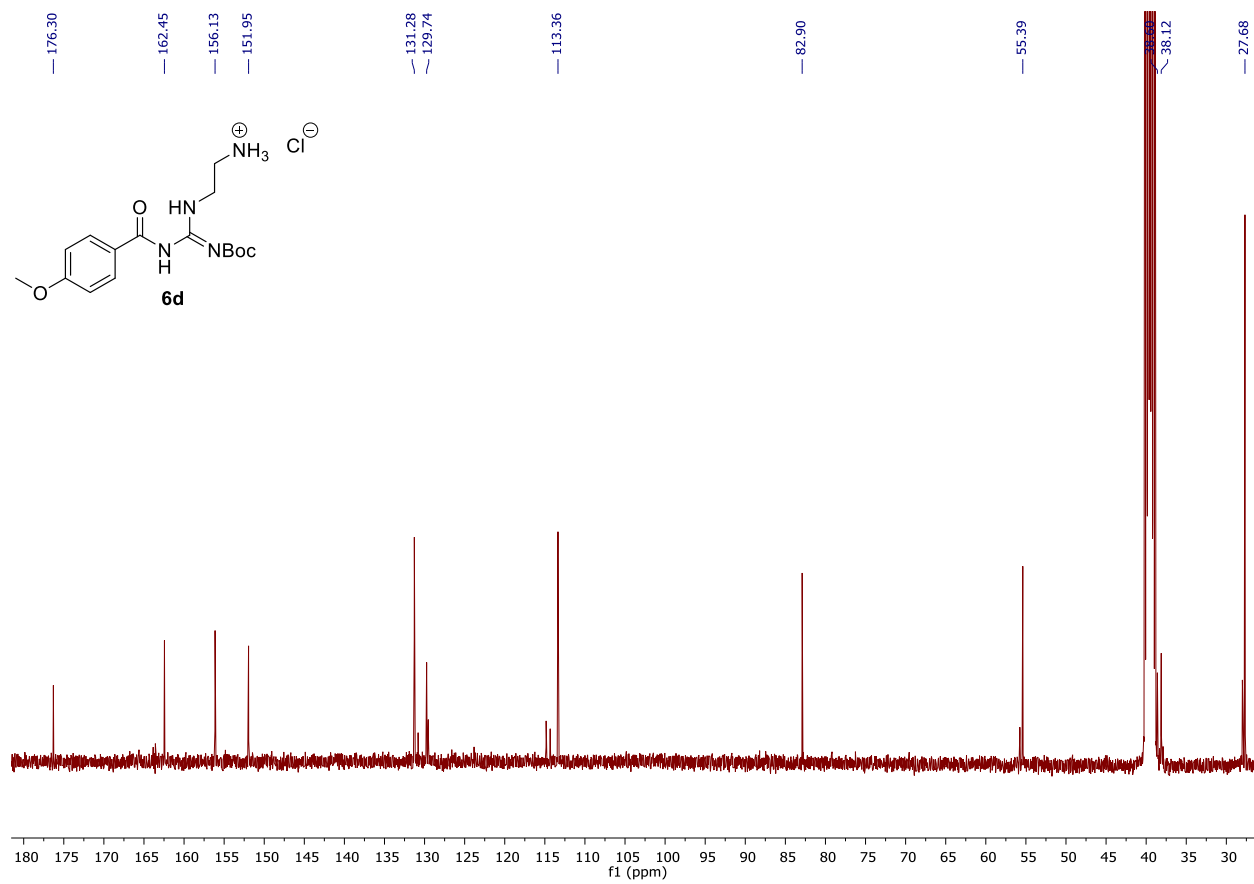


Figure S8: ¹³C NMR (100 MHz) spectrum of compound **6d** in DMSO-*d*₆.

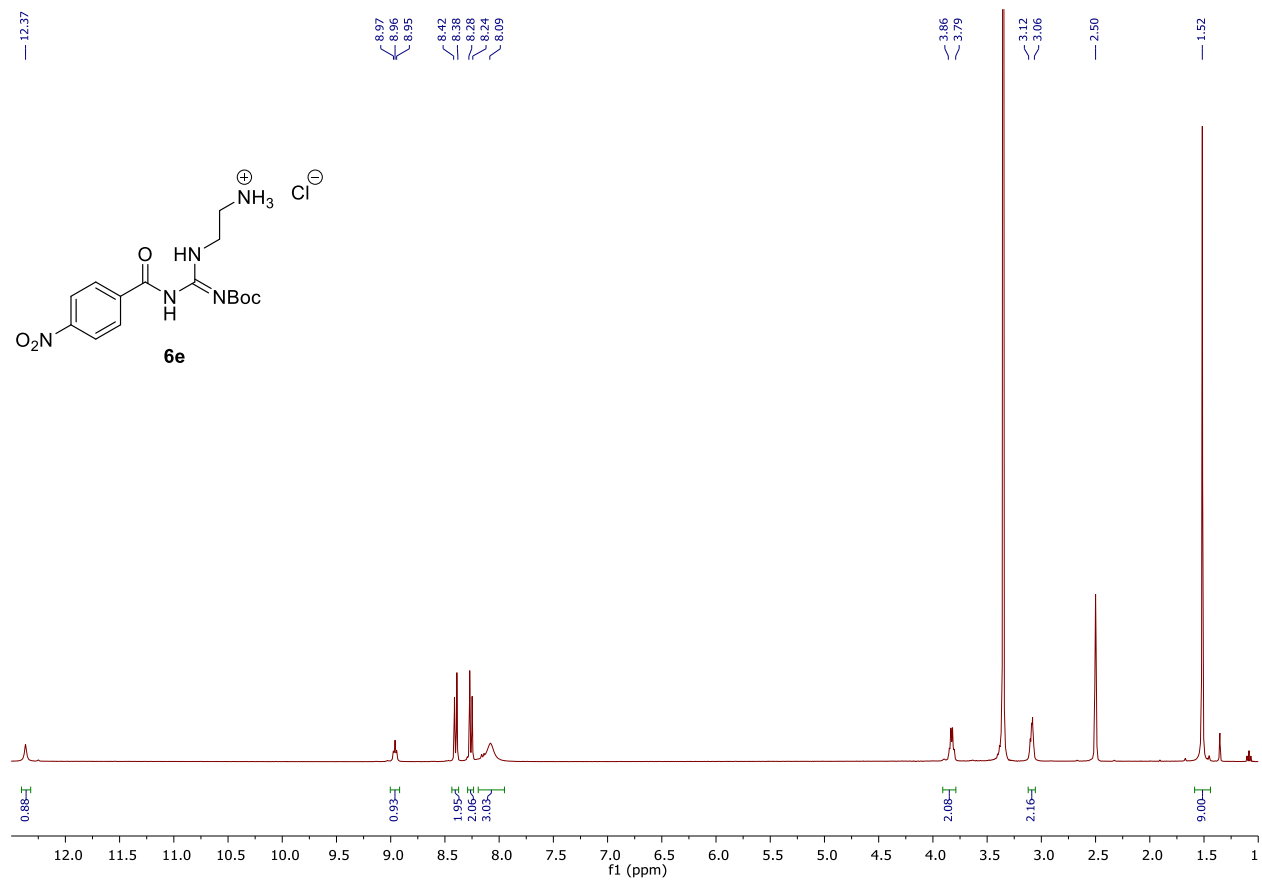


Figure S9: $^1\text{H NMR}$ (400 MHz) spectrum of compound **6e** in $\text{DMSO-}d_6$.

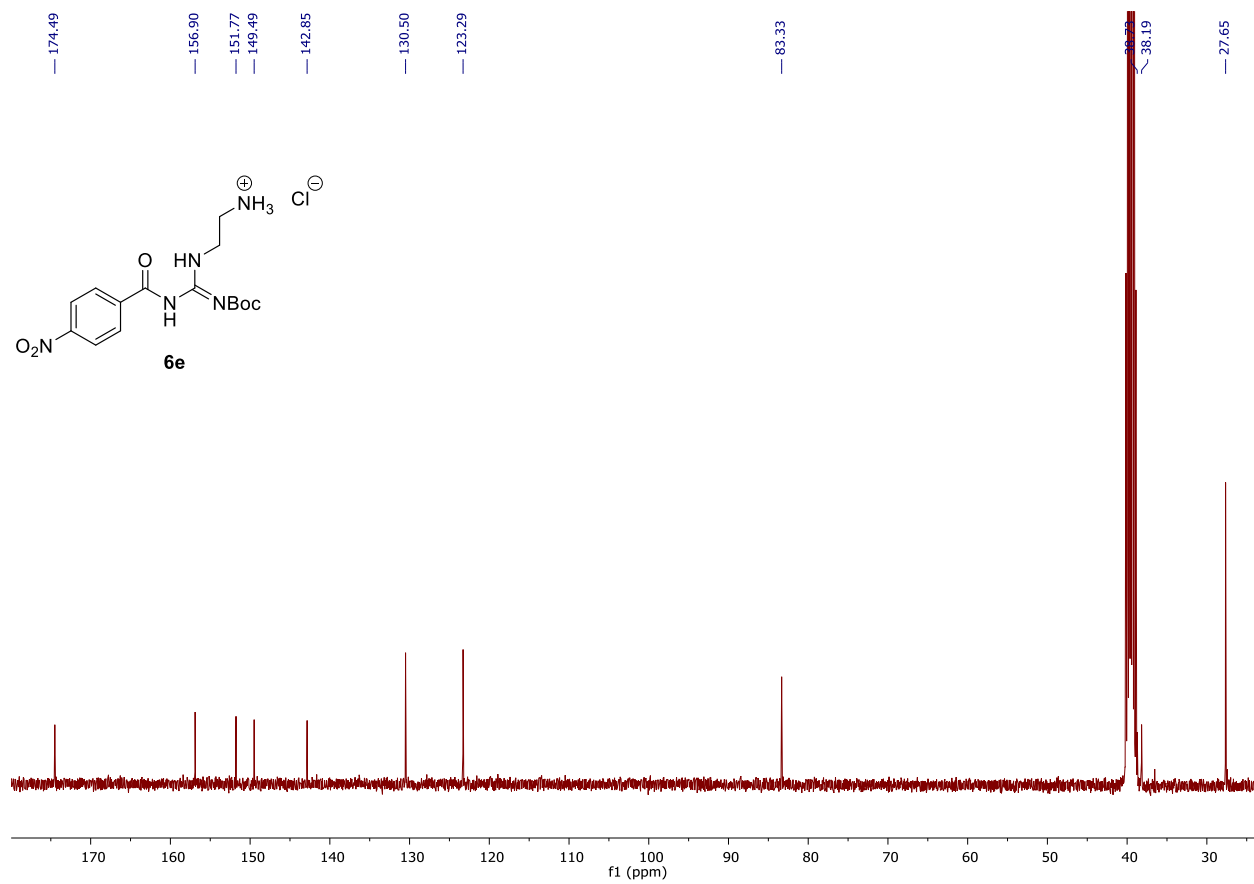


Figure S10: ¹³C NMR (100 MHz) spectrum of compound **6e** in DMSO-*d*₆.

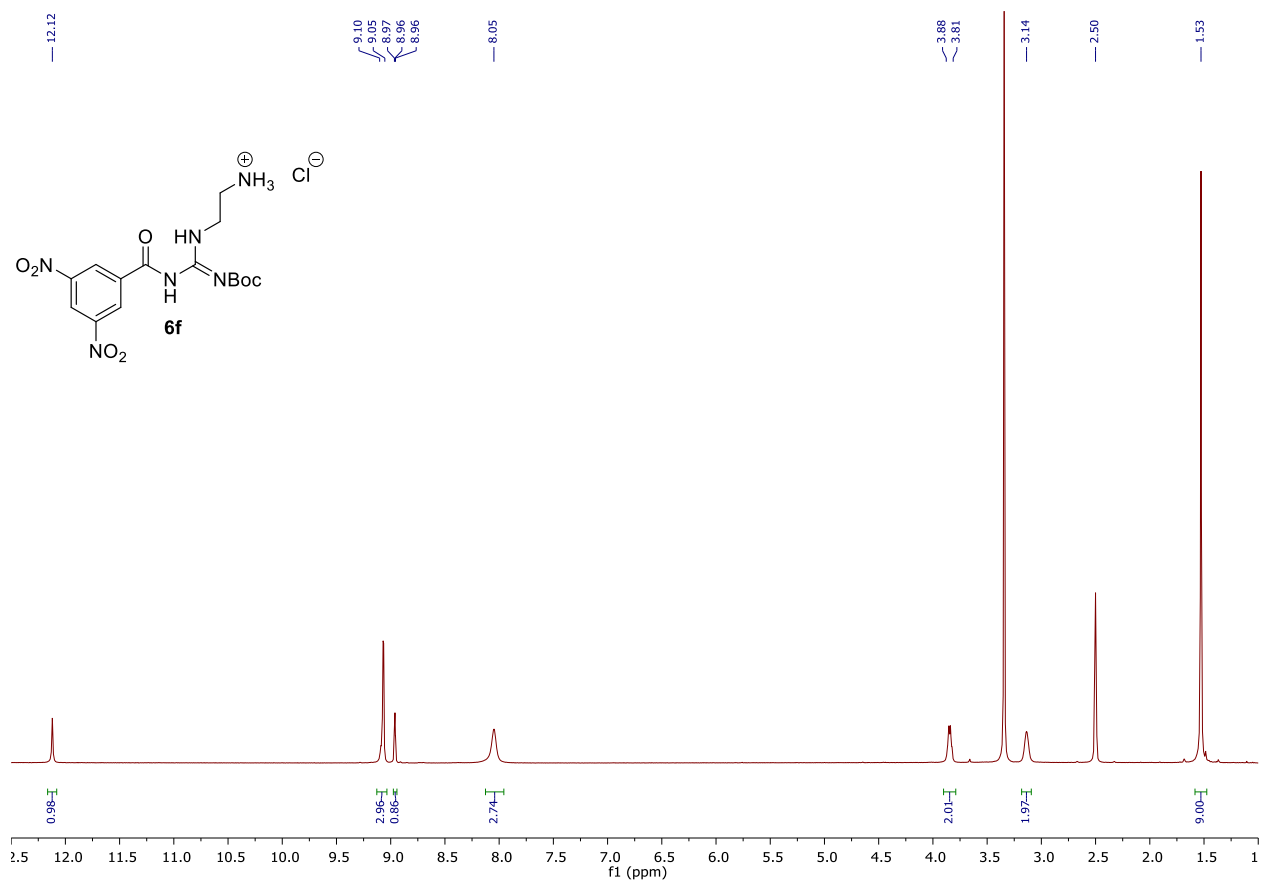


Figure S11: ¹H NMR (400 MHz) spectrum of compound **6f** in DMSO-*d*₆.

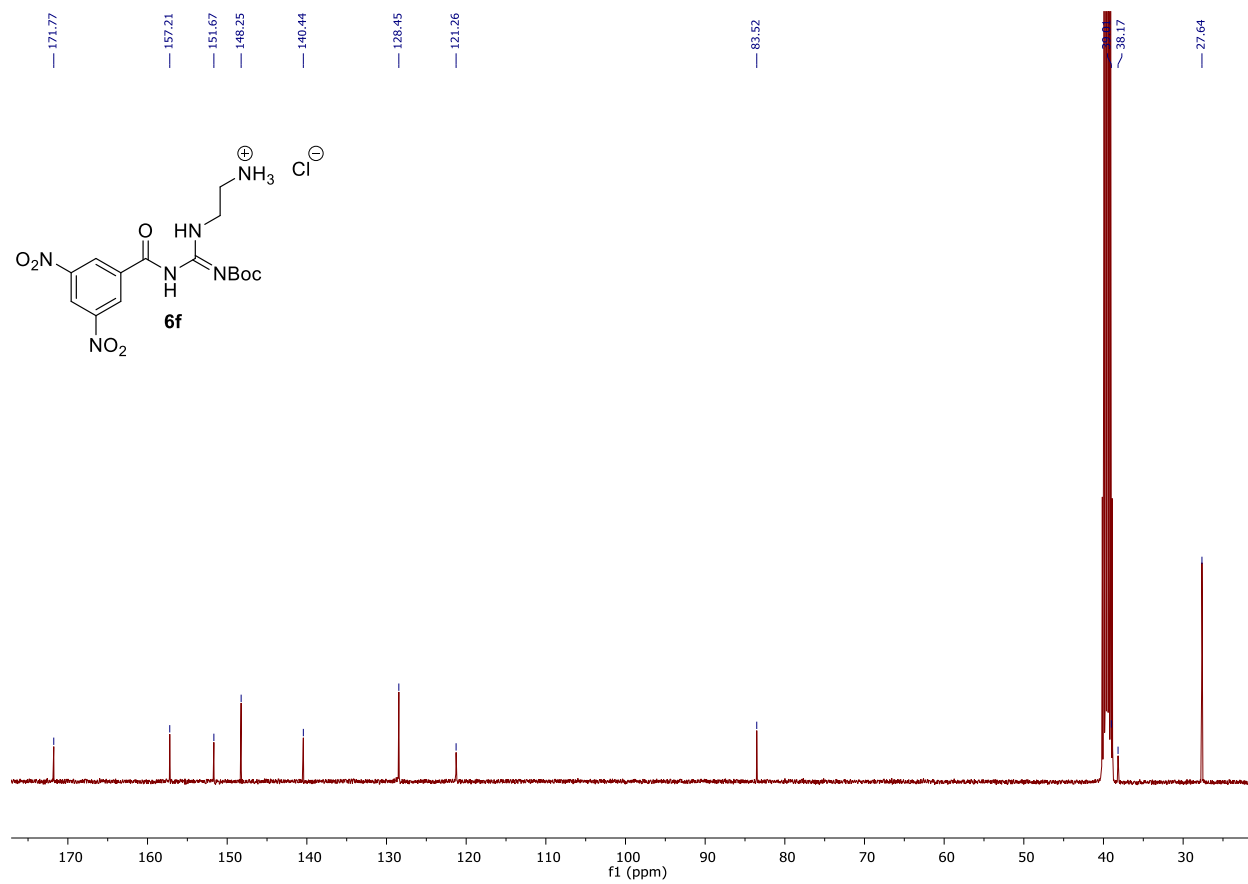


Figure S12: ¹³C NMR (100 MHz) spectrum of compound **6f** in DMSO-*d*₆.

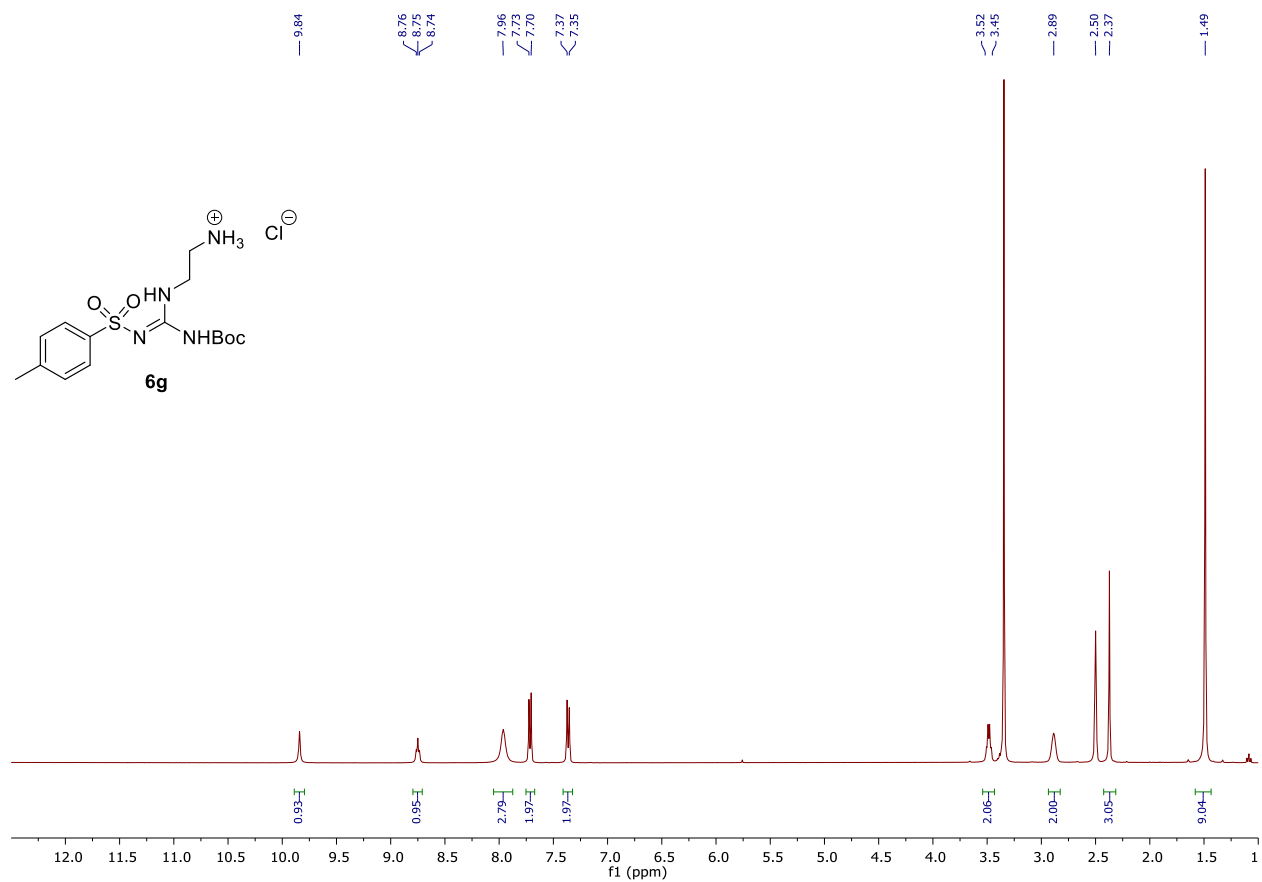


Figure S13: ^1H NMR (400 MHz) spectrum of compound **6g** in $\text{DMSO-}d_6$.

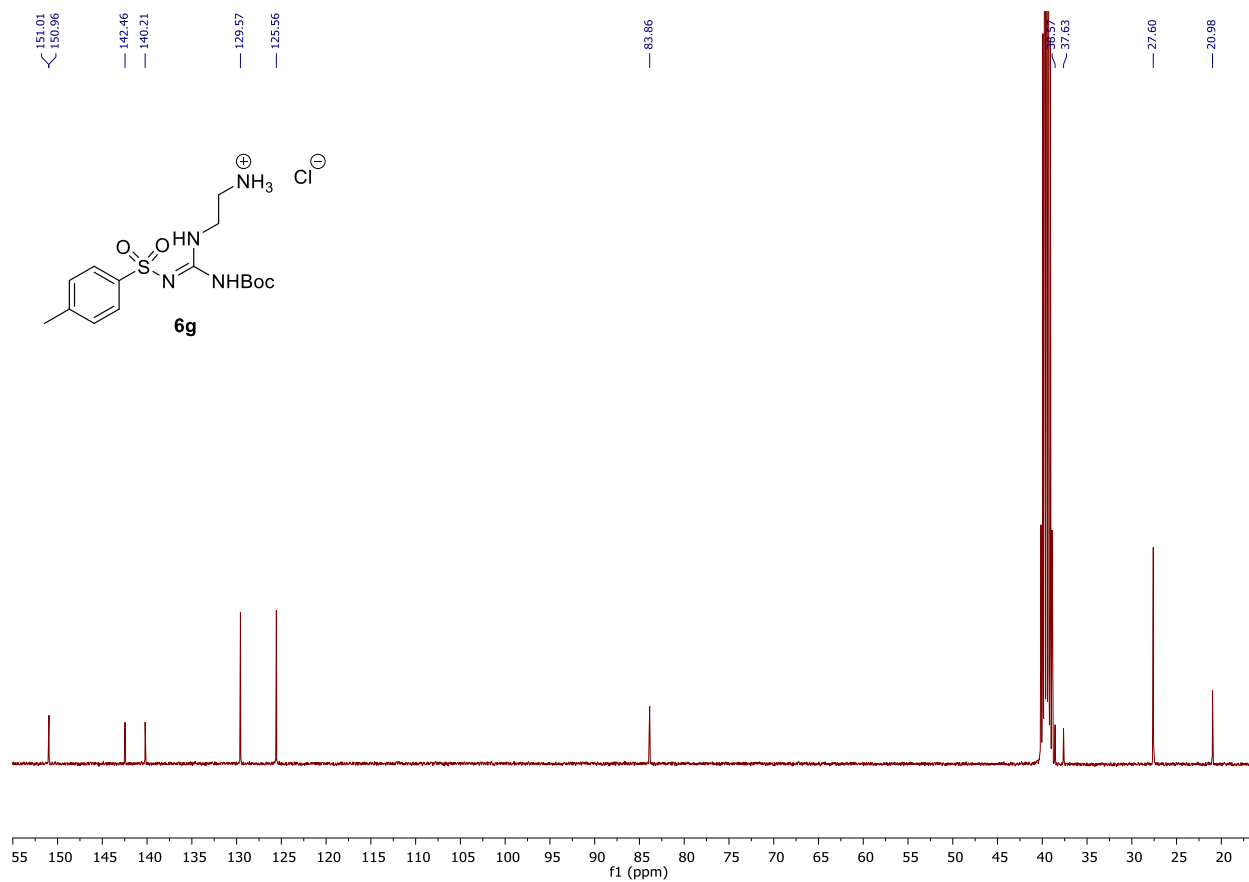


Figure S14: ¹³C NMR (100 MHz) spectrum of compound **6g** in DMSO-*d*₆.

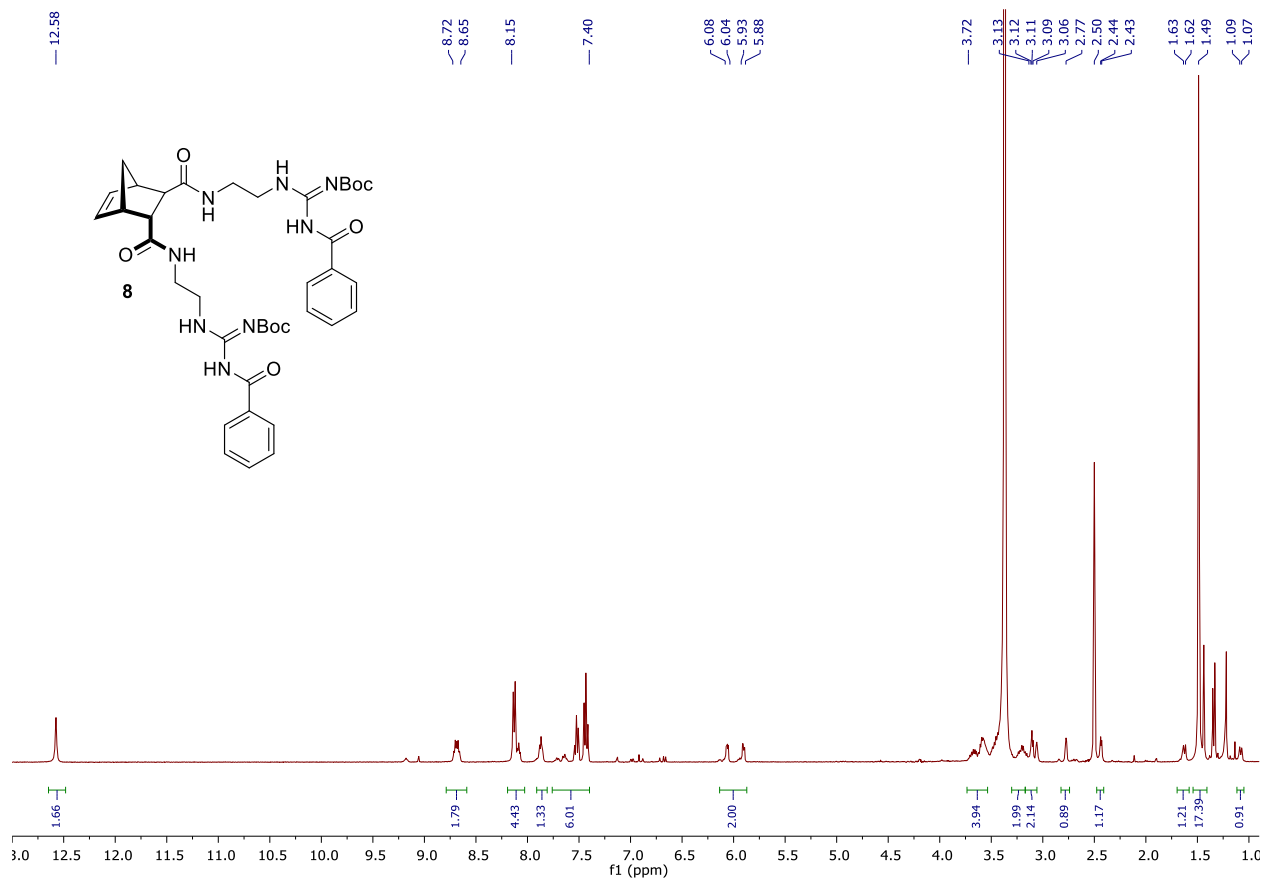


Figure S15: ¹H NMR (400 MHz) spectrum of compound **8** in DMSO-*d*₆.

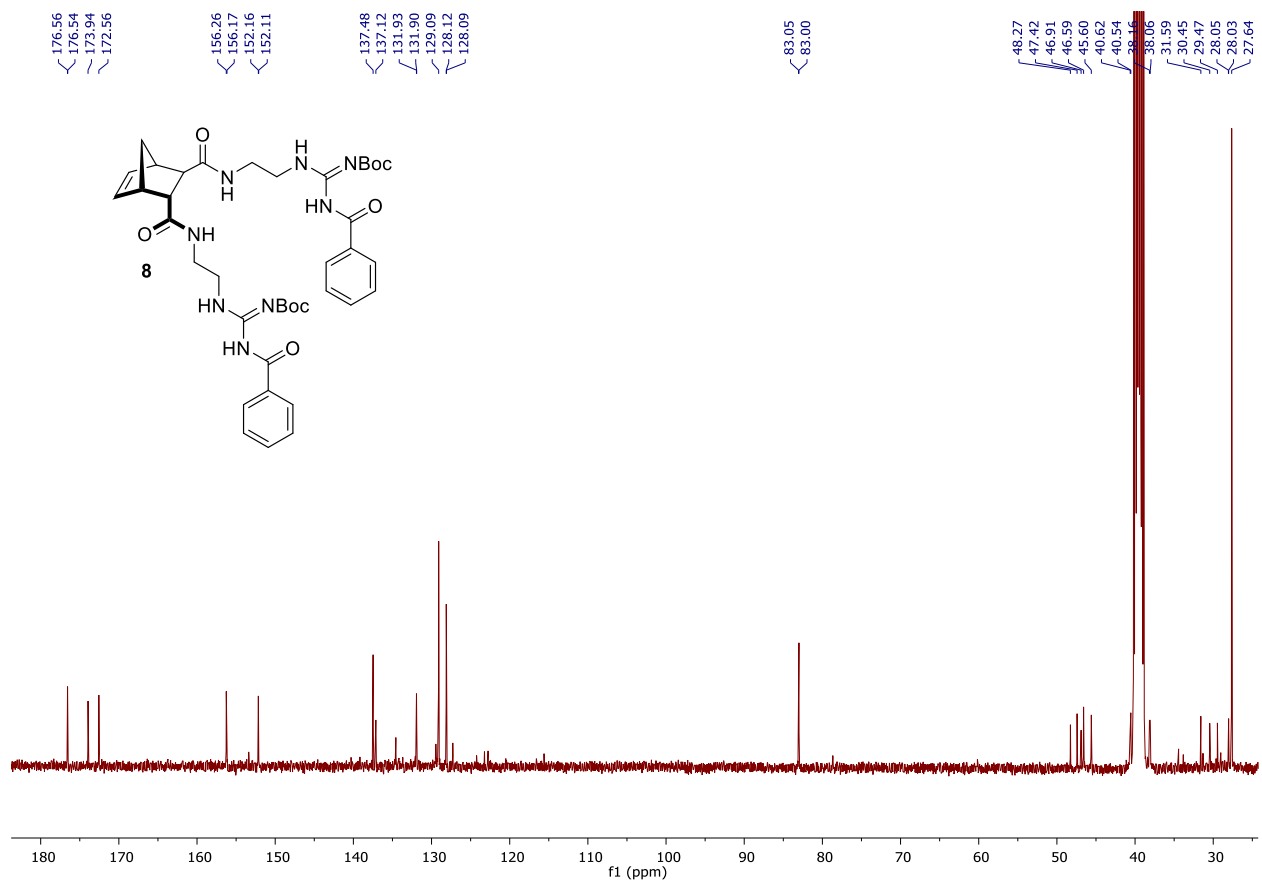


Figure S16: ^{13}C NMR (100 MHz) spectrum of compound **8** in $\text{DMSO-}d_6$.

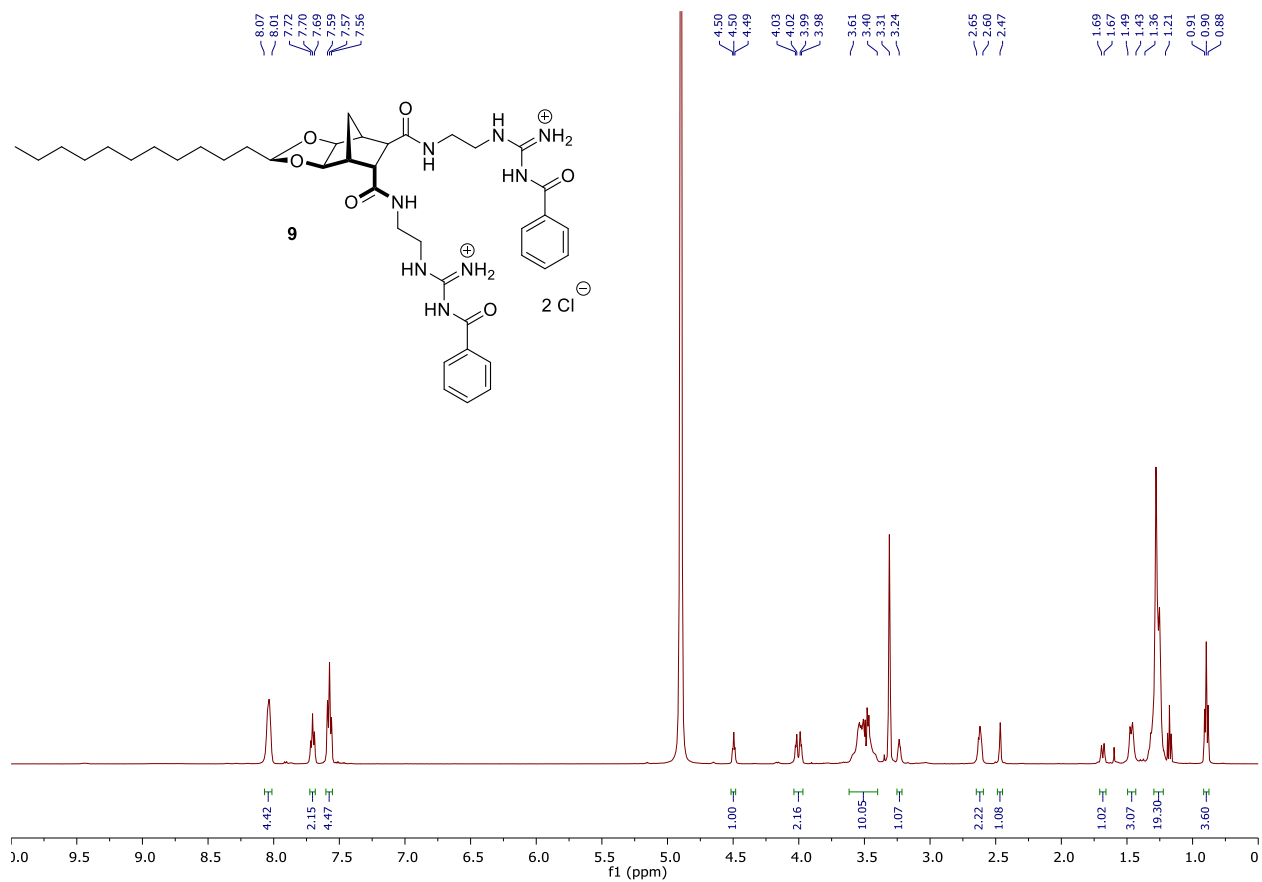


Figure S17: ^1H NMR (400 MHz) spectrum of compound **9** in CD_3OD .

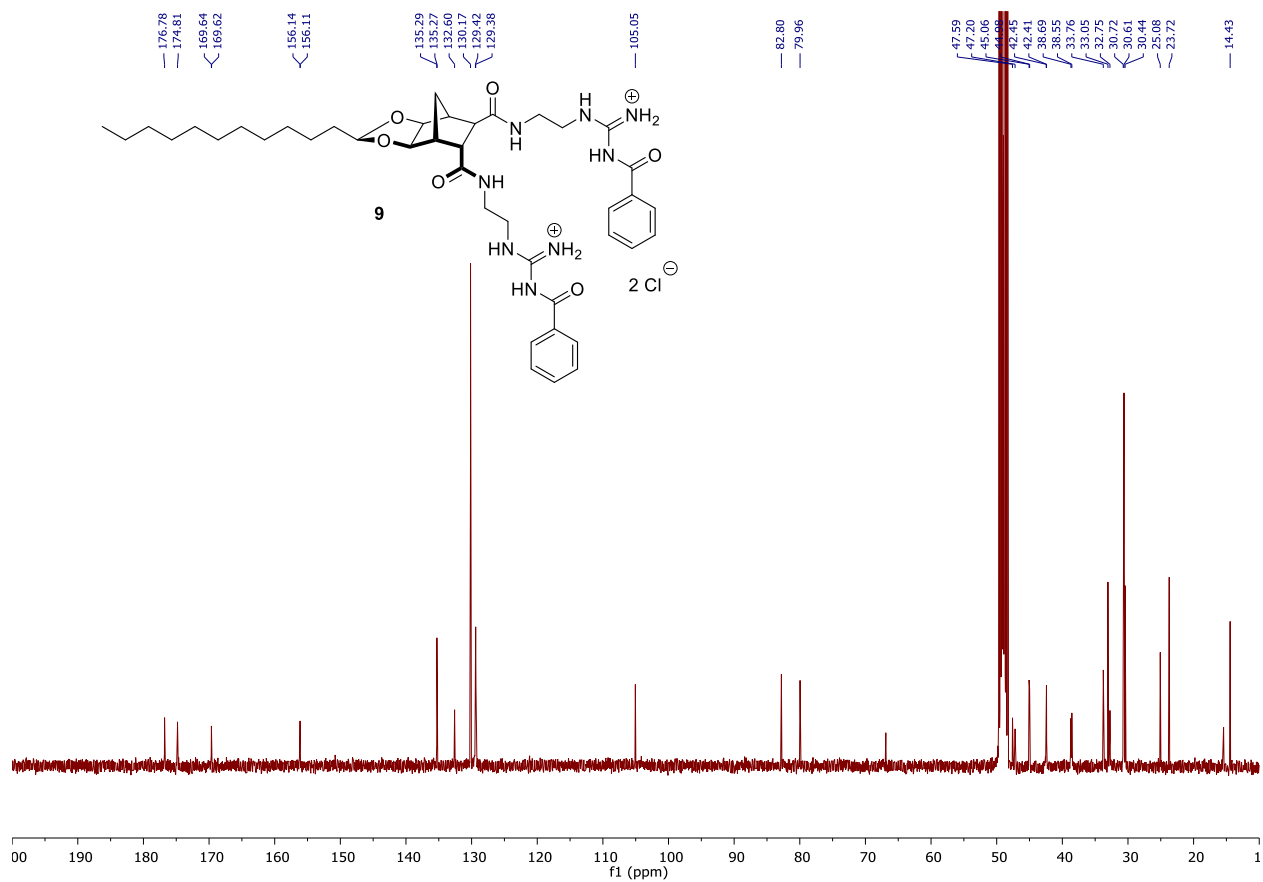


Figure S18: ^{13}C NMR (100 MHz) spectrum of compound **9** in CD_3OD .

S2: ^1H NMR spectra showing aminoethylguanidine cyclization

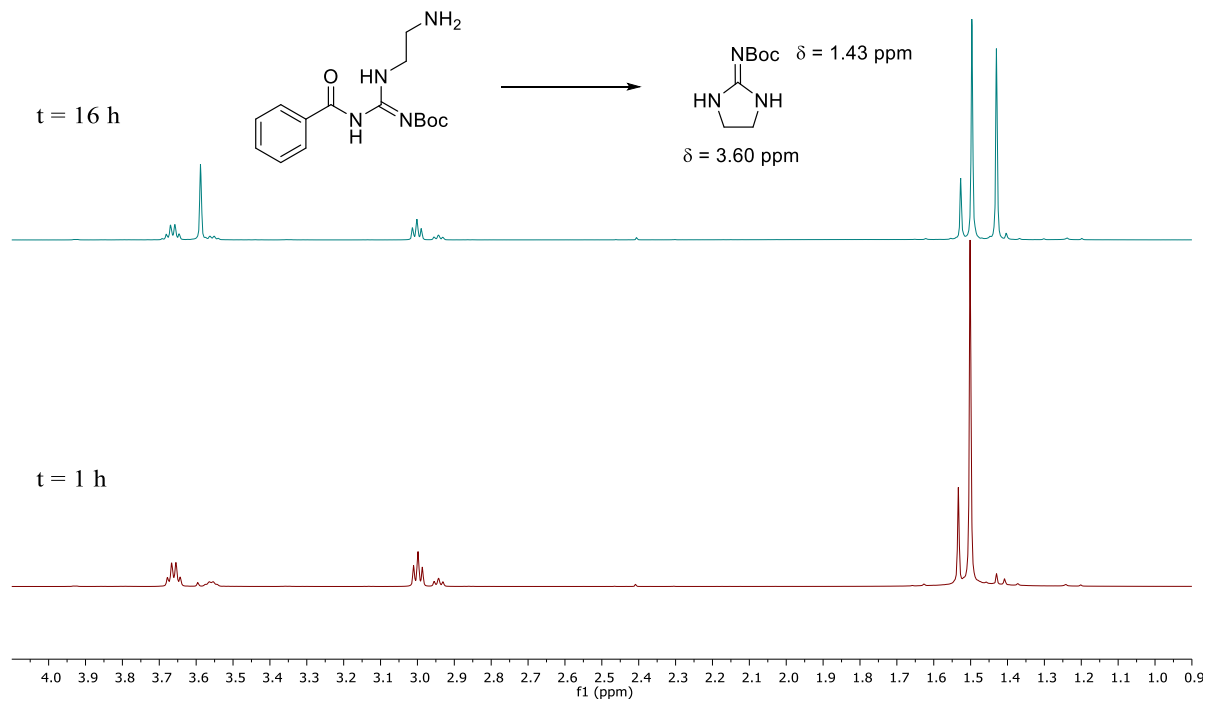


Figure S19: ^1H NMR (400 MHz) spectra of aminoethylguanidine cyclization (see inset) at 1 and 16h timepoints post-reaction. Spectra recorded in CDCl_3 .

S3: ¹H NMR spectra showing degradation of HCl salt **6c**

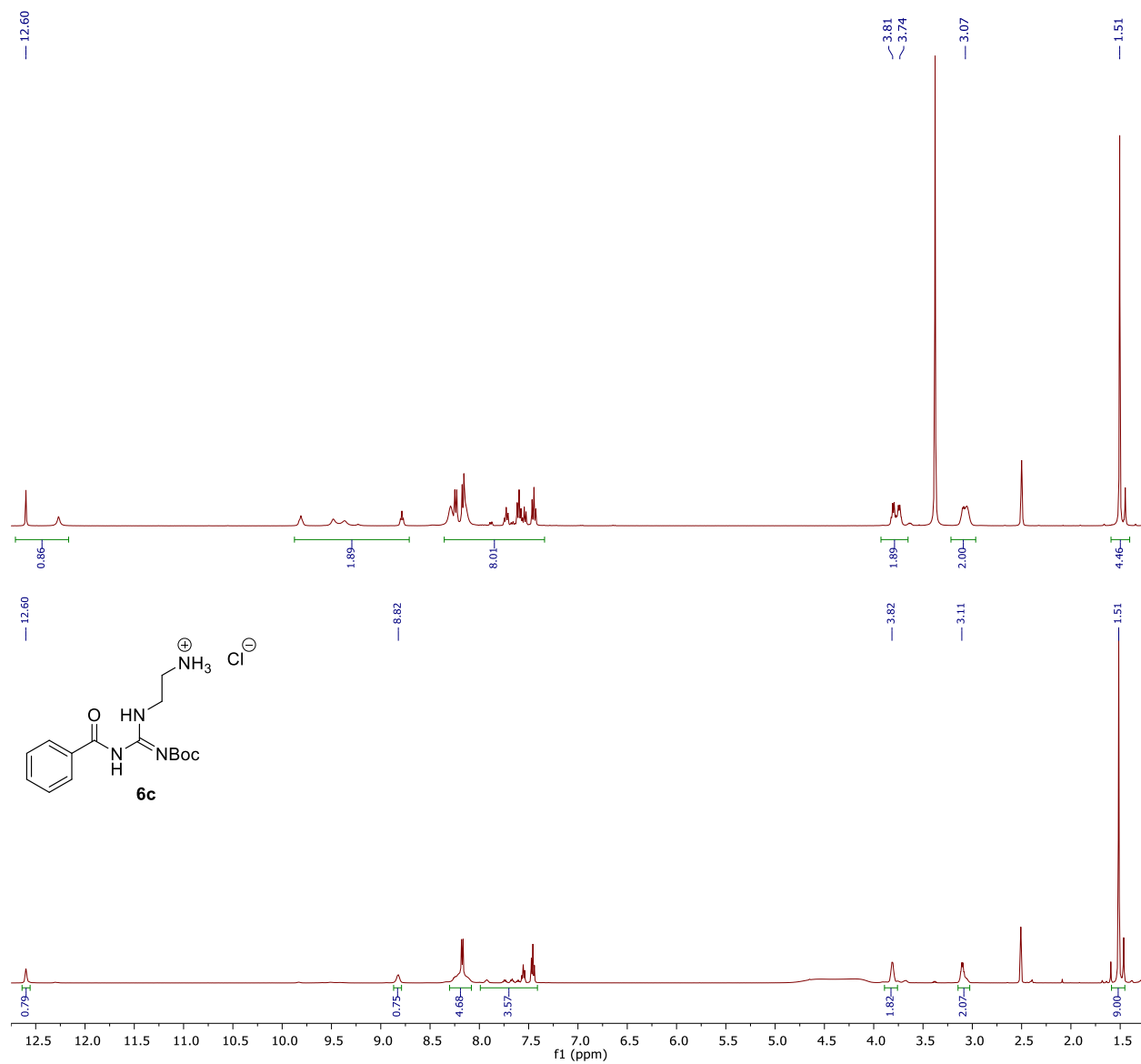


Figure S20: ¹H NMR (400 MHz) spectra of compound **6c**; *Top*: after 2 months. *Bottom*: freshly synthesised. Both spectra recorded in DMSO-*d*₆.

S4: Antibacterial activity table

Table S1: Antimicrobial assay by broth microdilution minimum inhibitory concentration (MIC, µg/mL) assay.

| compound | <i>Staphylococcus aureus</i> | <i>Staphylococcus aureus</i> | <i>Staphylococcus aureus</i> | <i>Staphylococcus aureus</i> | <i>Streptococcus pneumoniae</i> |
|-------------------|---|---|------------------------------|--|---------------------------------|
| | ATCC 43300 | NRS 17 | ATCC 700699 (NRS 1) | VRS 10 | ATCC 700677 |
| | methicillin resistant <i>S. aureus</i> (MRSA) | vancomycin intermediate <i>S. aureus</i> (VISA) | MRSA/VISA | vancomycin resistant <i>S. aureus</i> (VRSA) | multidrug resistant (MDR) |
| vancomycin | 1 | 4 | 8 | 64 | 2 |
| daptomycin | 2 | 8 | 16 | 4 | 2 |
| oritivancin | 0.06 | 0.5 | 1 | 0.125 | 0.06 |
| compound 9 | 16 | 16 | 16 | 16 | 16 |