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SUPPORTING INFORMATION

Chiral amines as initiators for ROP and chiral induction on Poly(2-Aminoisobutyric acid) chains

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Content

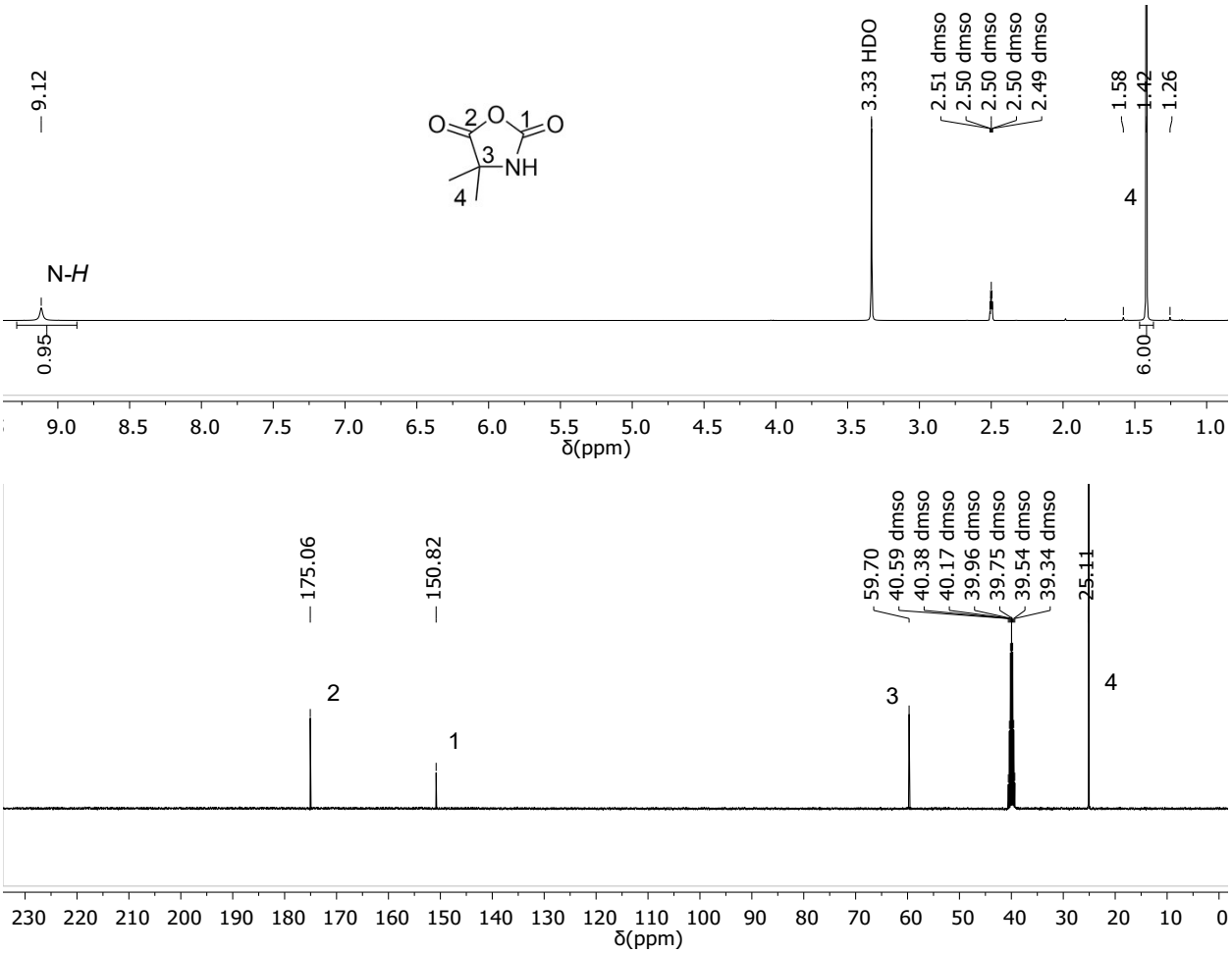

Figure S1. ^{1}H-NMR spectra (top) and ^{13}C-NMR spectra (bottom) of Aib-NCA monomer.

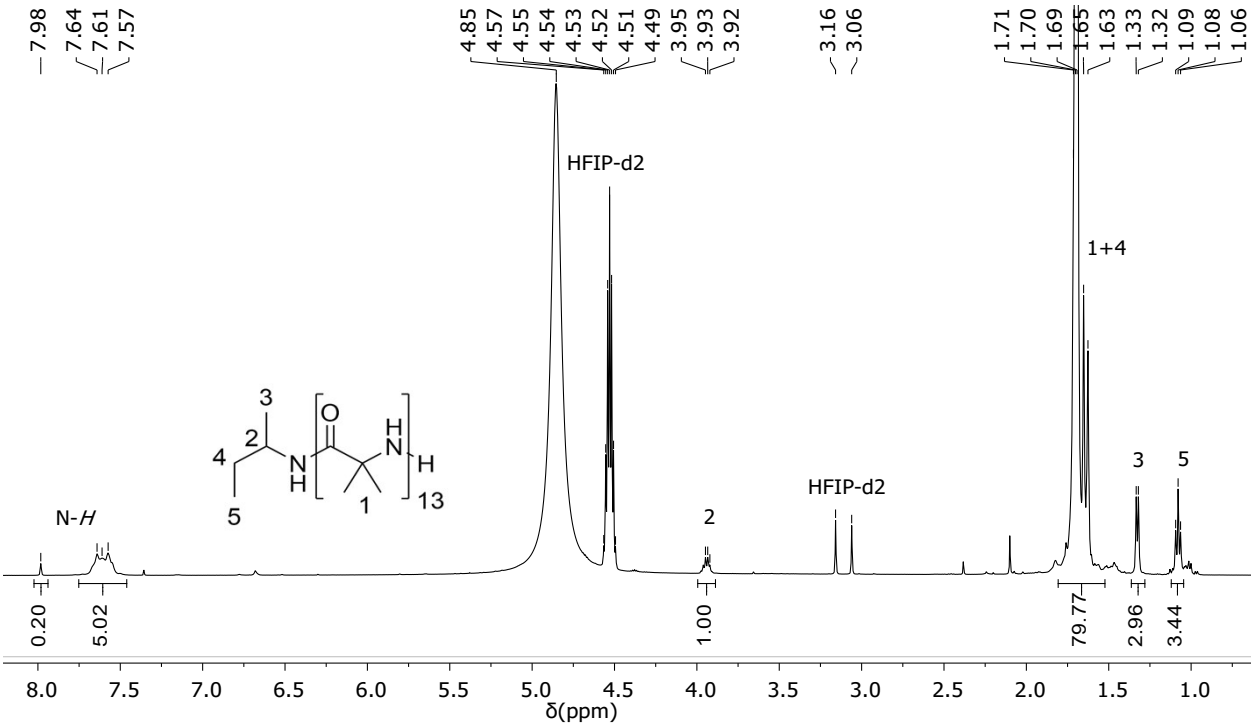

Figure S2. ^{1}H-NMR spectra of *S*1-3.

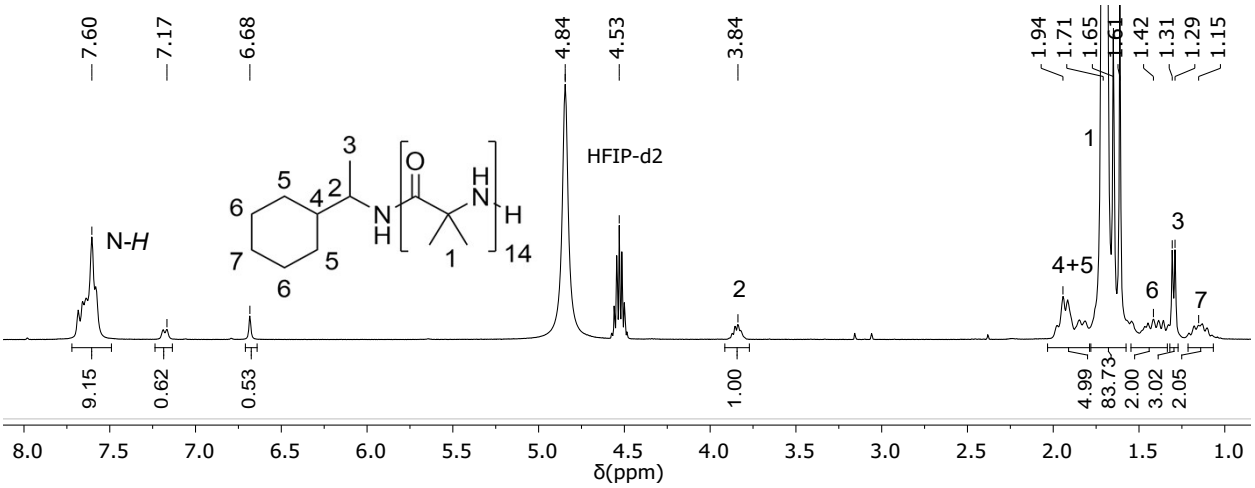

Figure S3. ^{1}H-NMR spectra of *S*2-13.

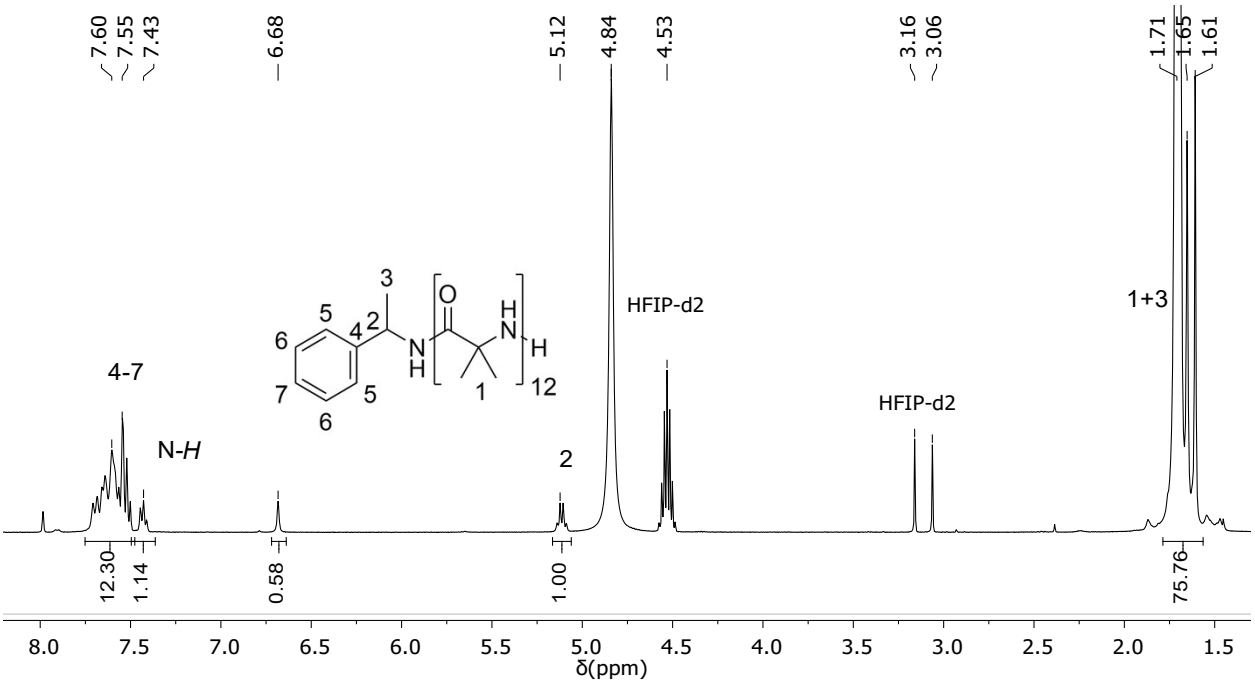

Figure S4. [1]H-NMR spectra of *S*3-16.

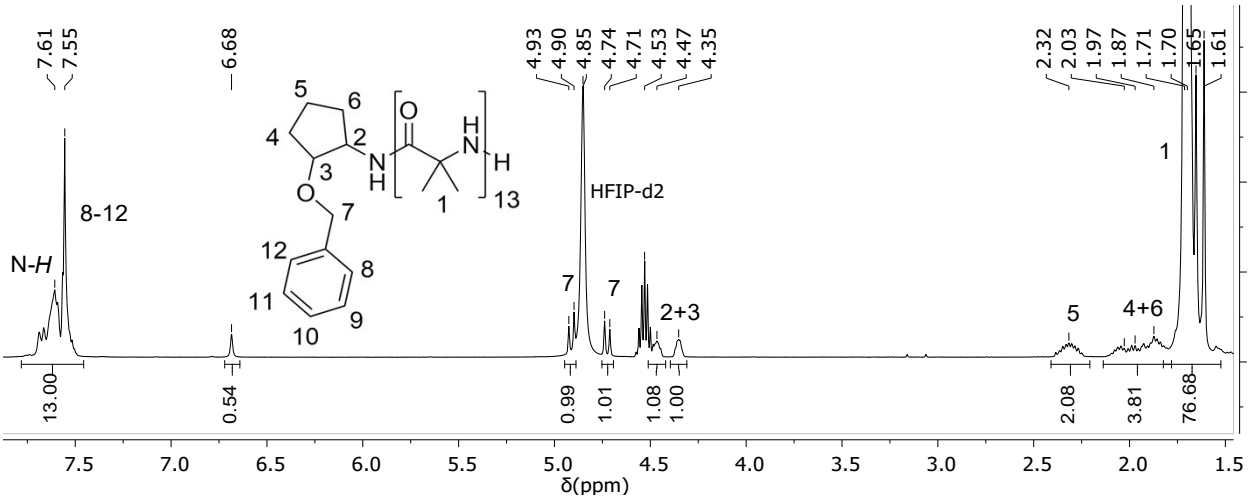

Figure S5. [1]H-NMR spectra of *S*4-21.

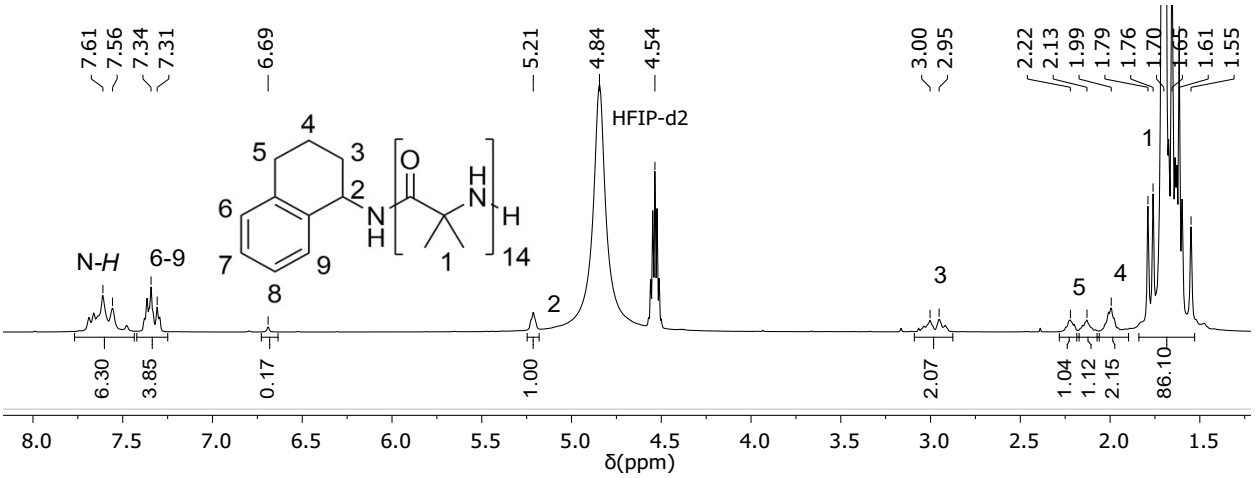

Figure S6.: ^{1}H-NMR spectra of *S*5-24.

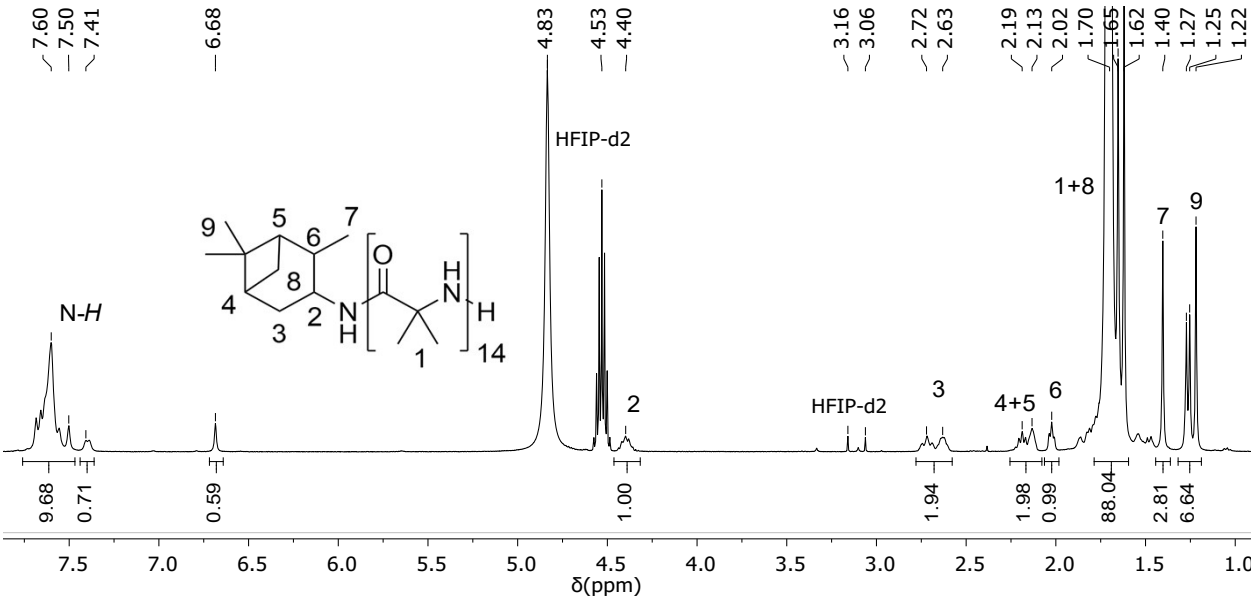

Figure S7. ^{1}H-NMR spectra of *S*6-27.

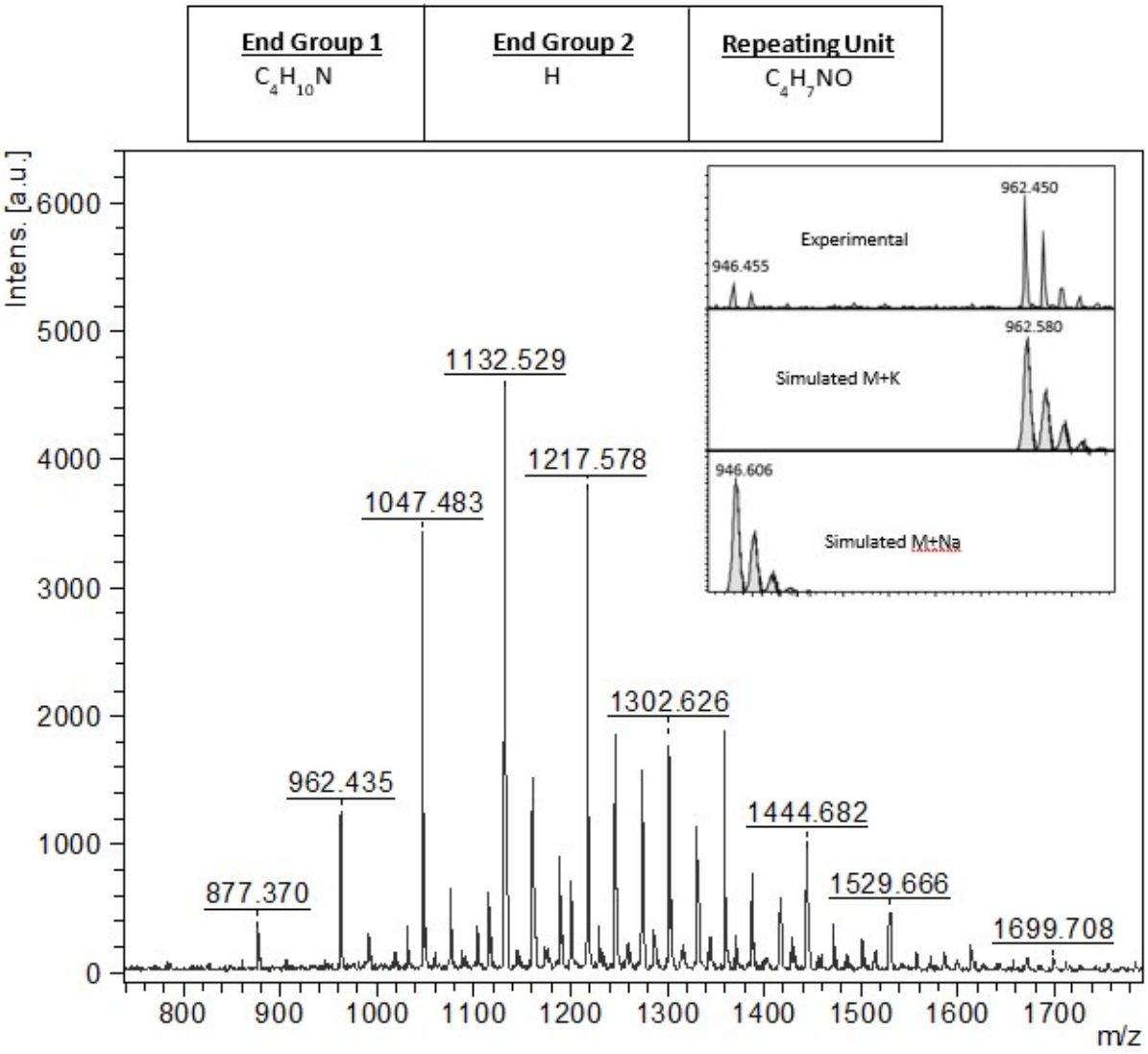

Figure S8. MALDI-TOF-MS spectra of *R*1-1.

End Group 1	End Group 2	Repeating Unit
$C_4H_{10}N$	H	C_4H_7NO

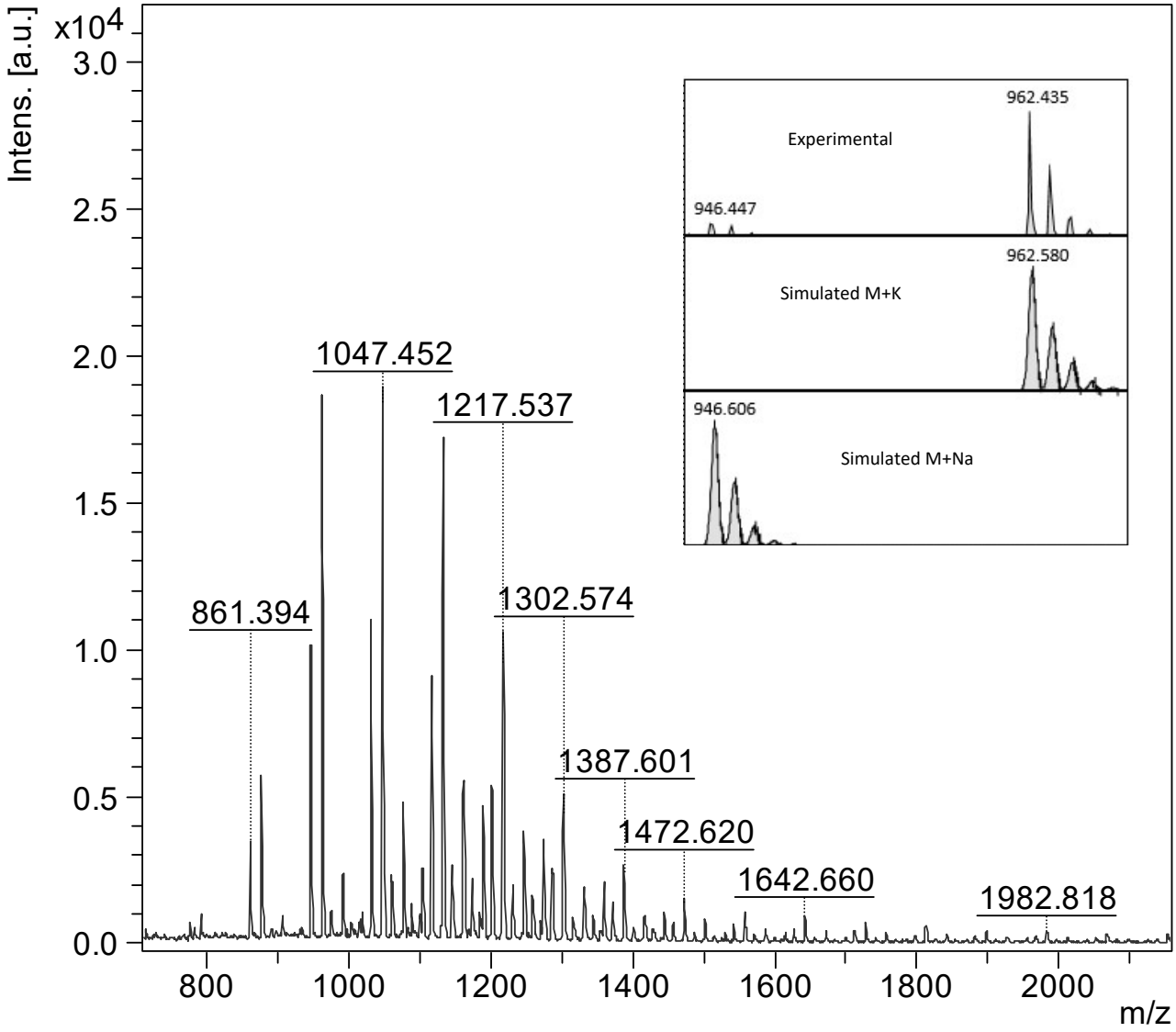

Figure S9. MALDI-TOF-MS spectra of *R*1-2

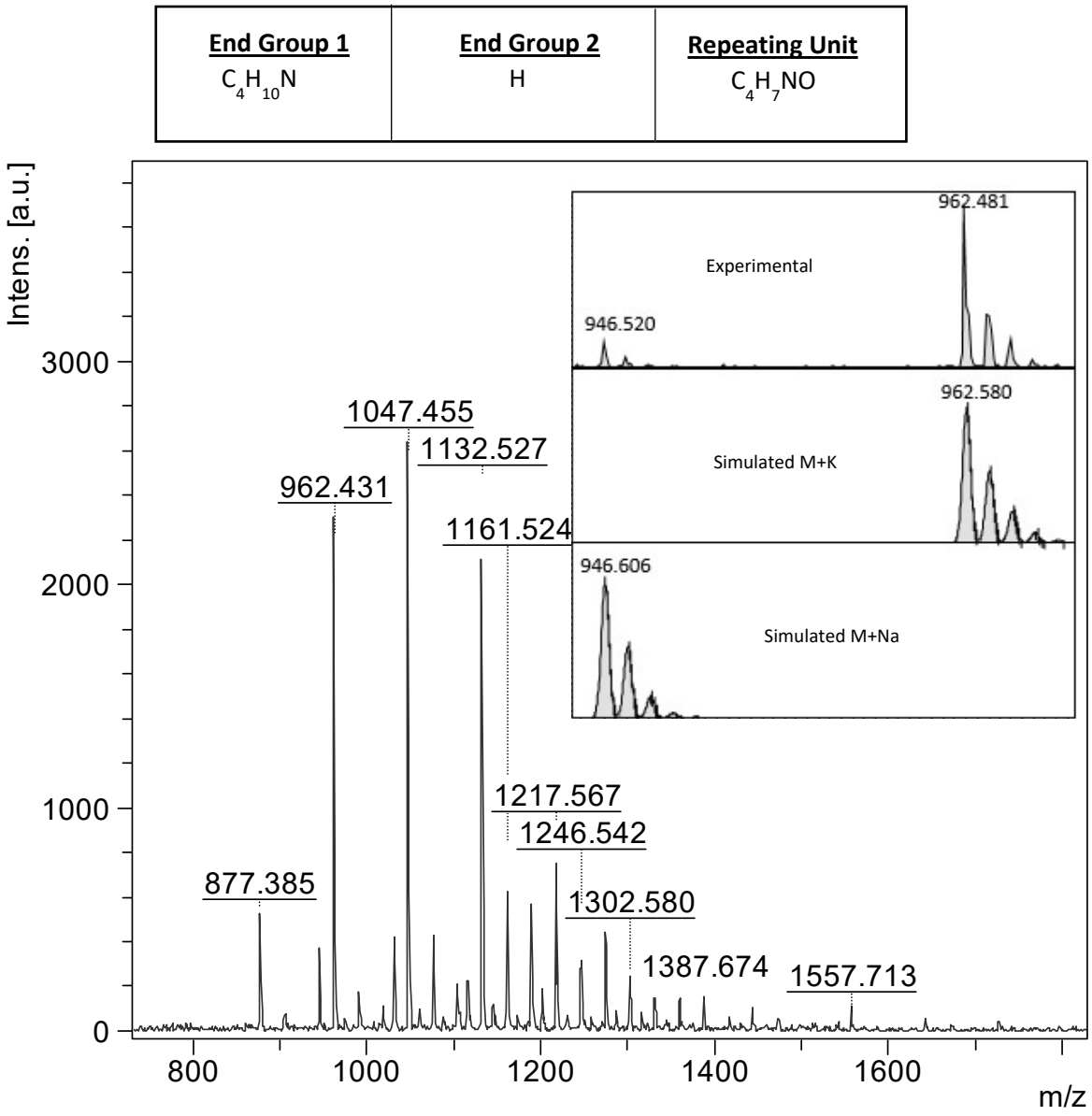

Figure S10. MALDI-TOF-MS spectra of *R*1-4.

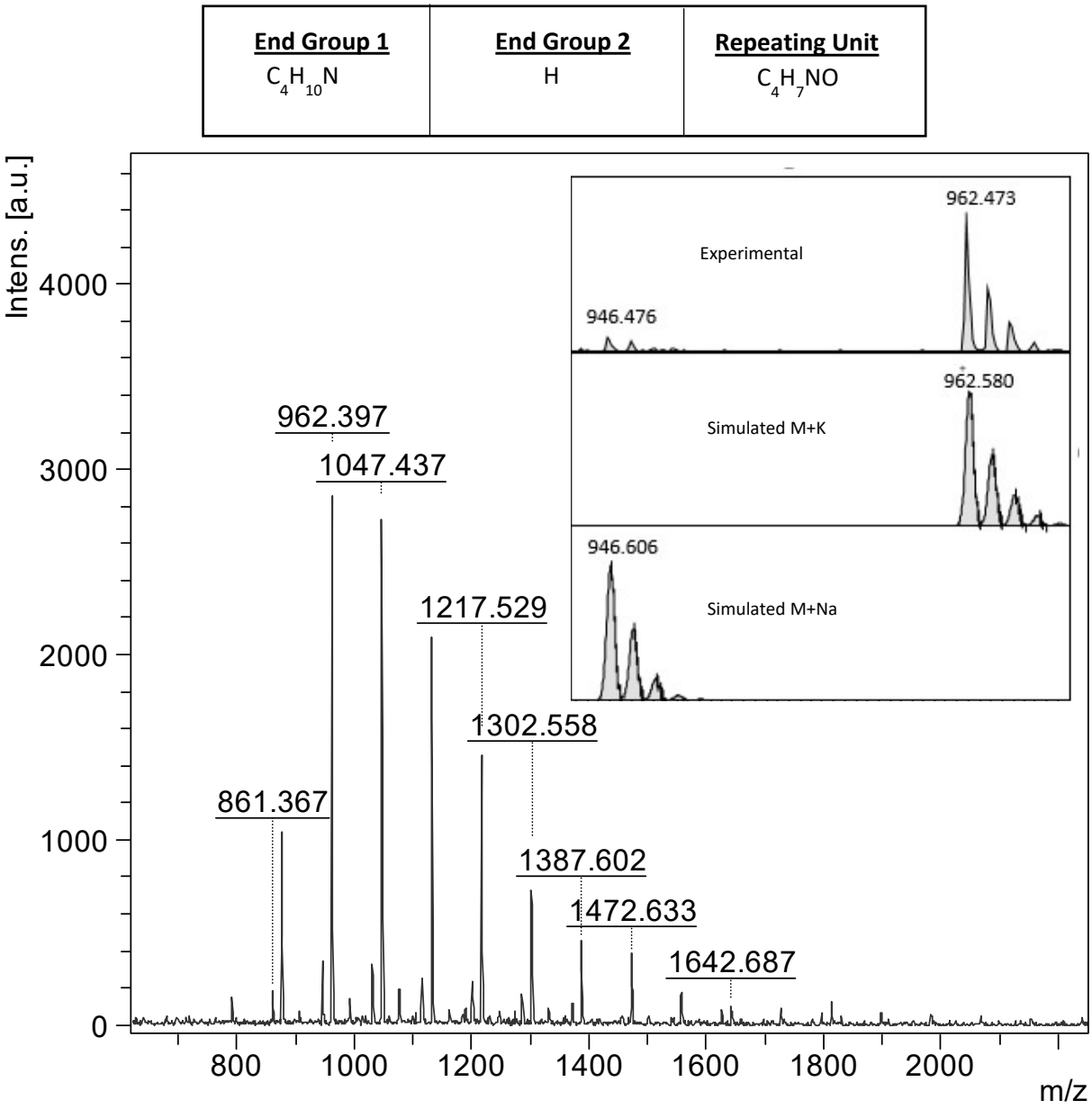

Figure S11. MALDI-TOF-MS spectra of *R*1-5.

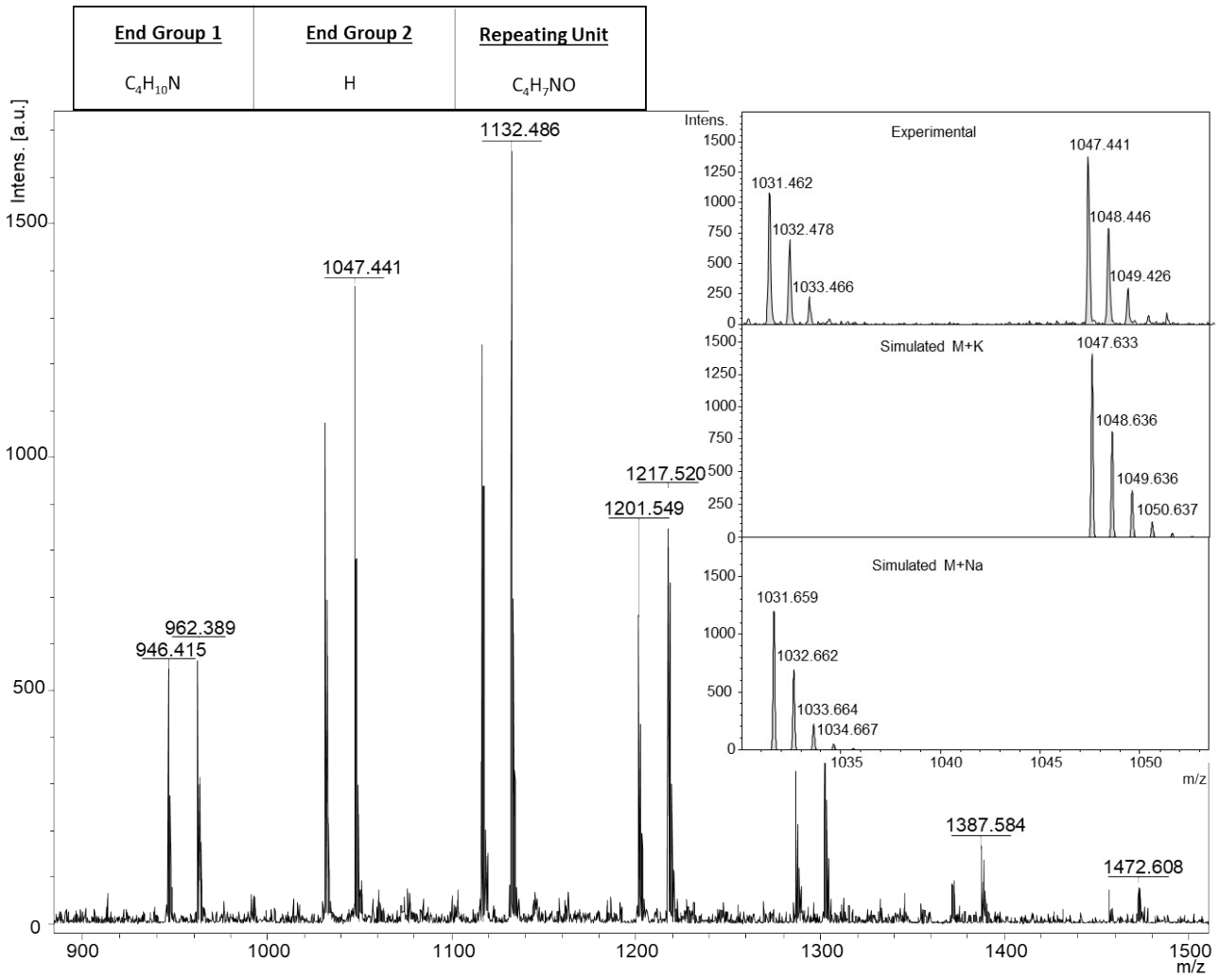

Figure S12. MALDI-TOF-MS spectra of *S*1-7

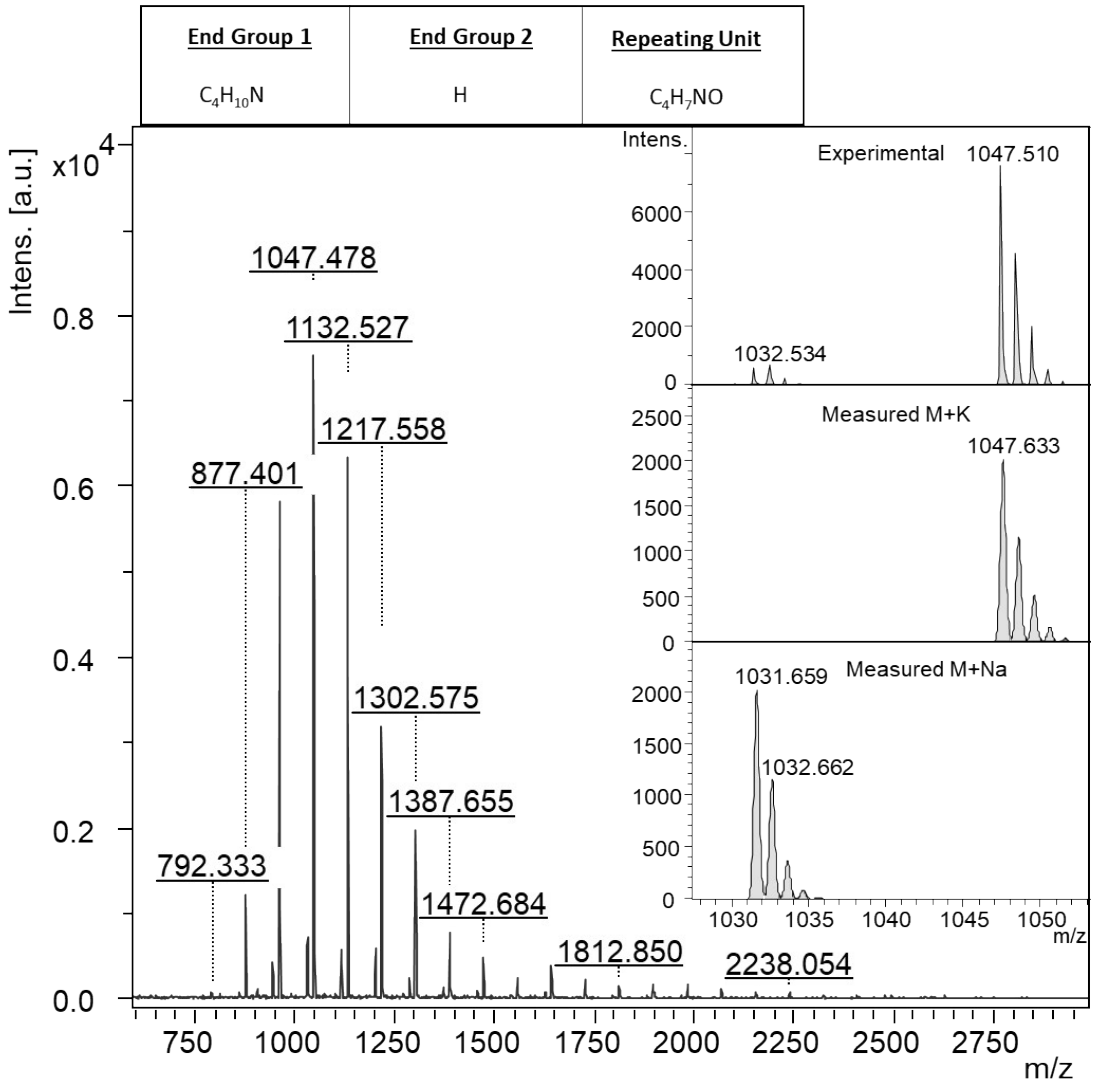

Figure S13. MALDI-TOF-MS spectra of *R*1-6.

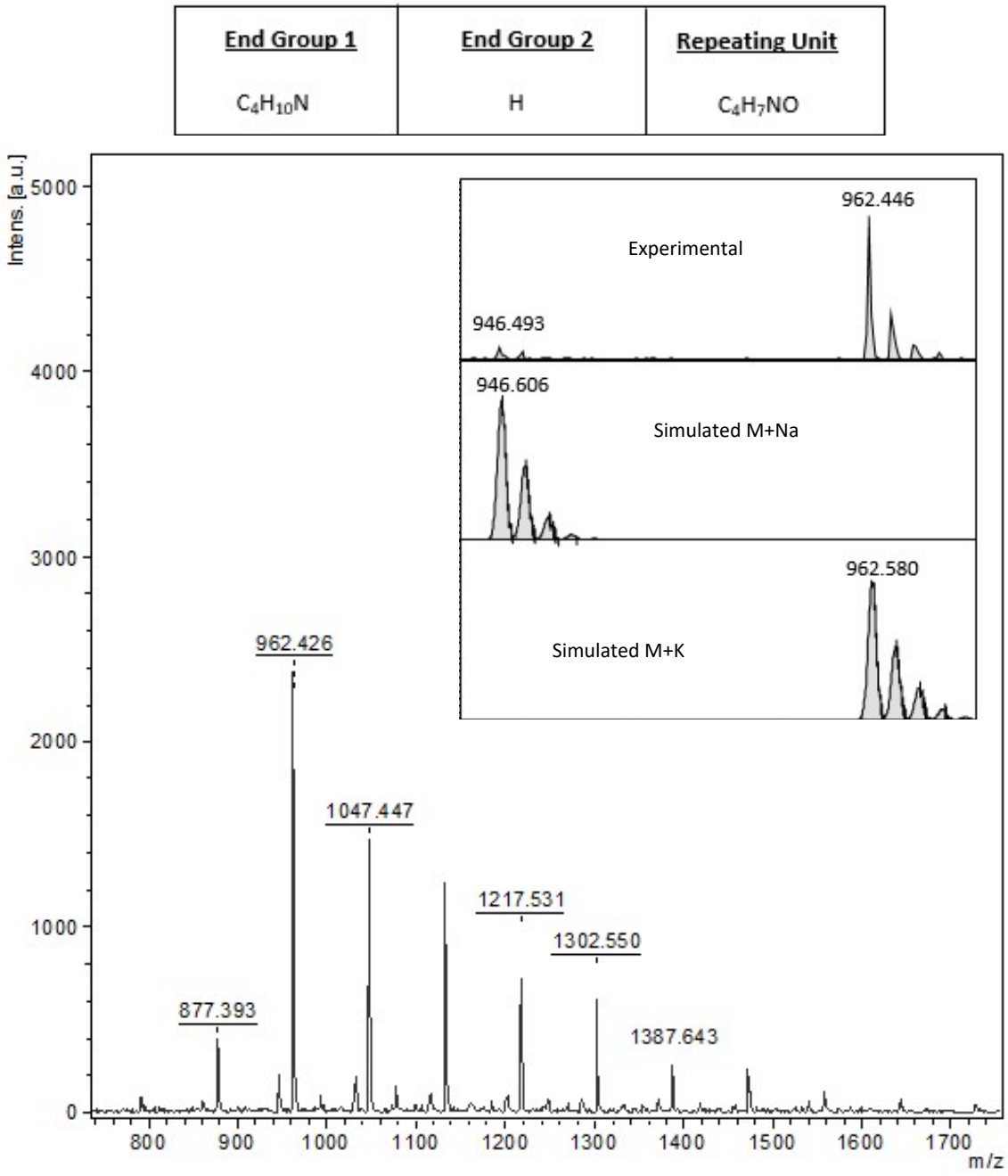

Figure S14. MALDI-TOF-MS spectra of *R*1-8.

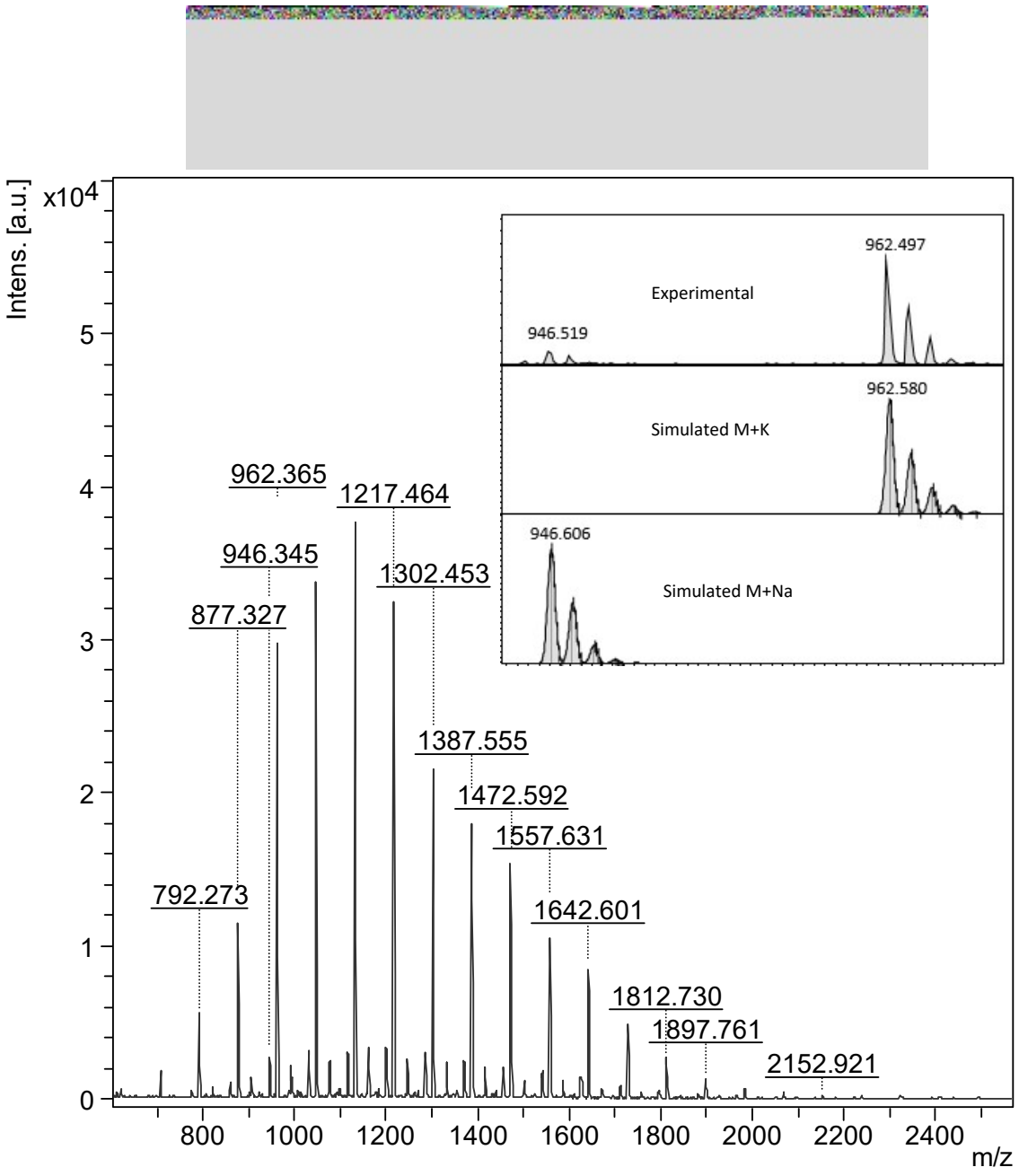

Figure S15. MALDI-TOF-MS spectra of *R*1-9.

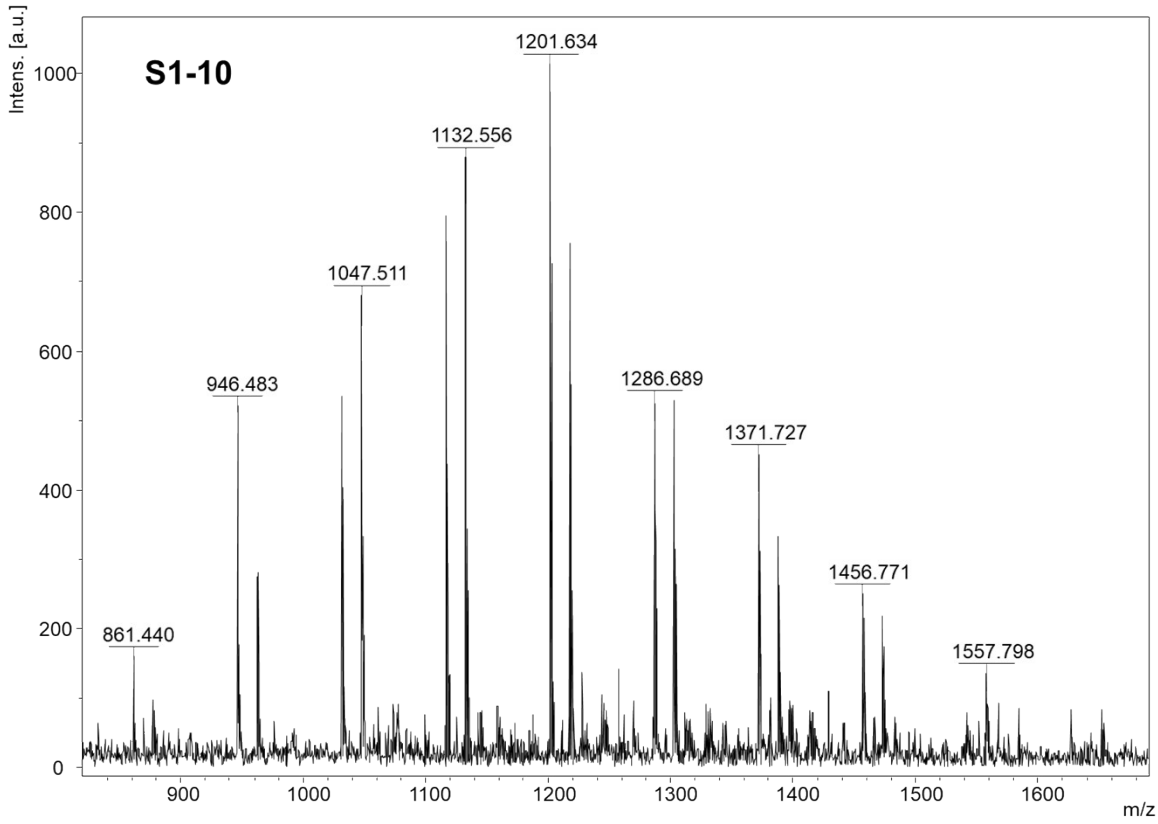

Figure S16. MALDI-TOF-MS spectra of *S*1-10.

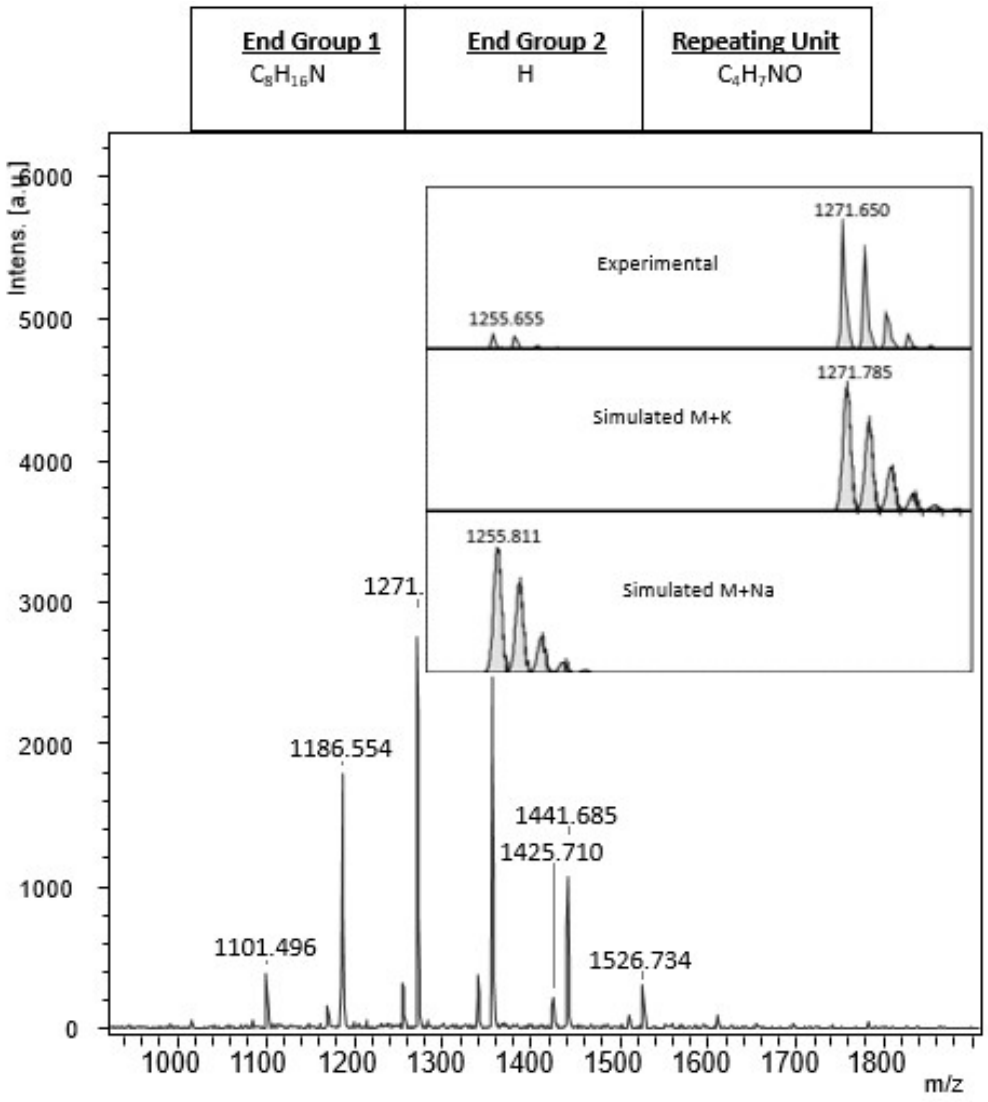

Figure S17. MALDI-TOF-MS spectra of *R*2-11.

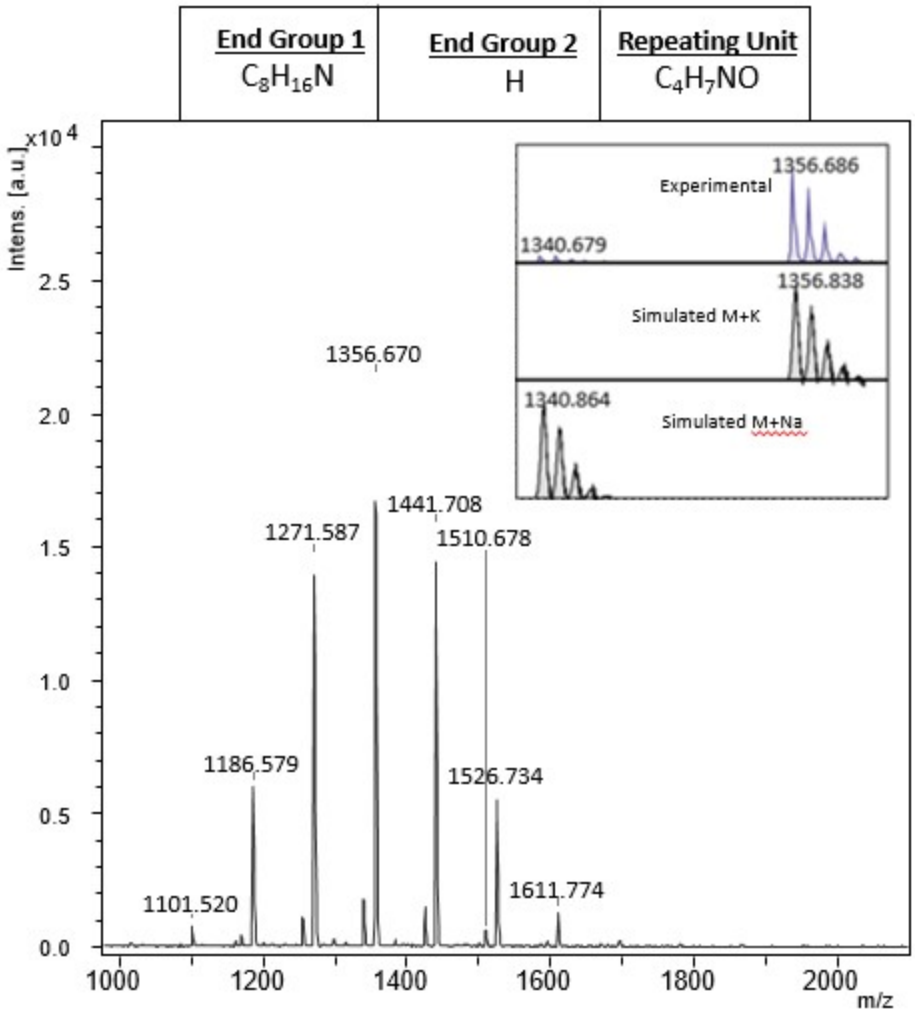

Figure S18. MALDI-TOF-MS spectra of *R*2-12.

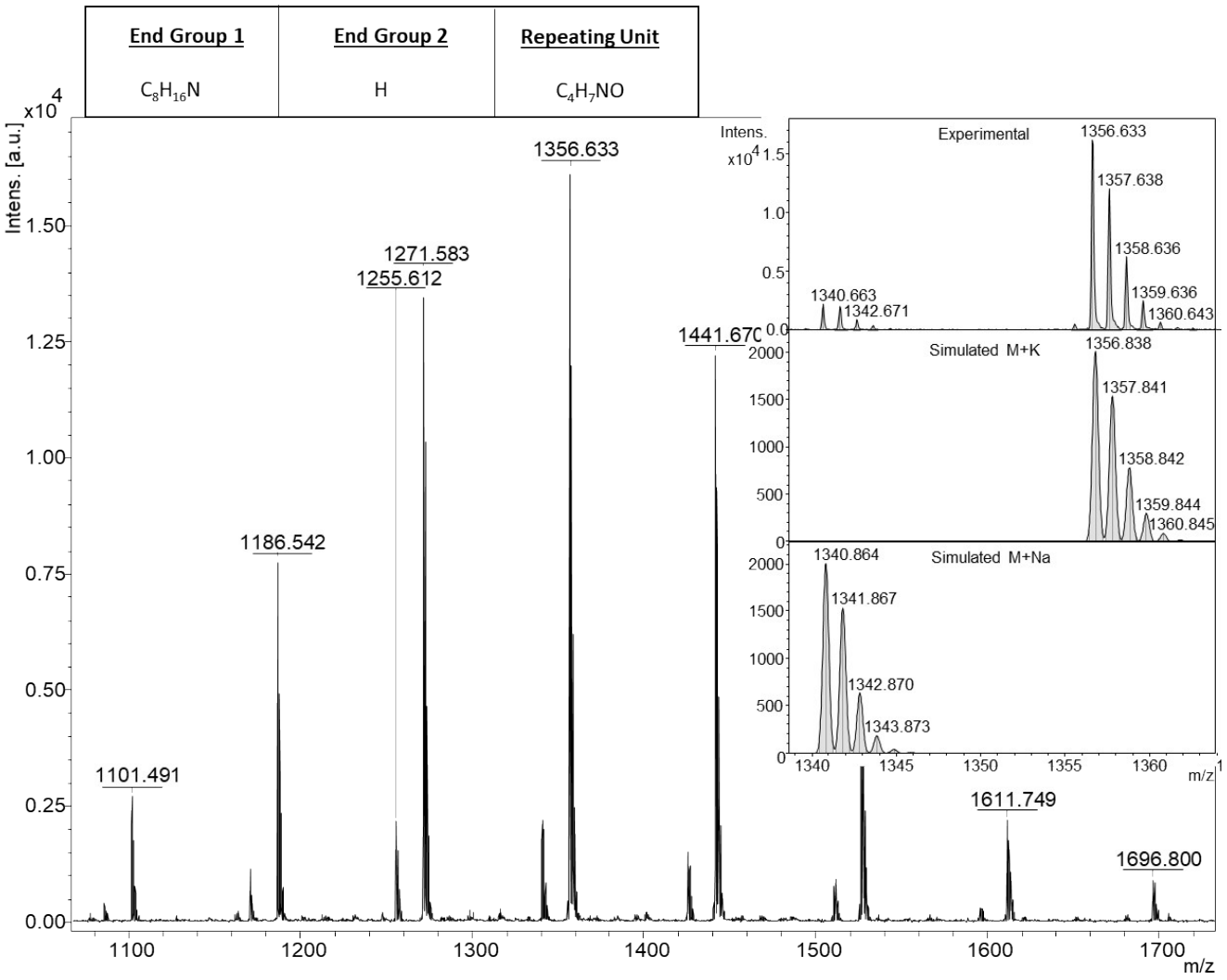

Figure S19. MALDI-TOF-MS spectra of *S*2-13.

End Group 1	End Group 2	Repeating Unit
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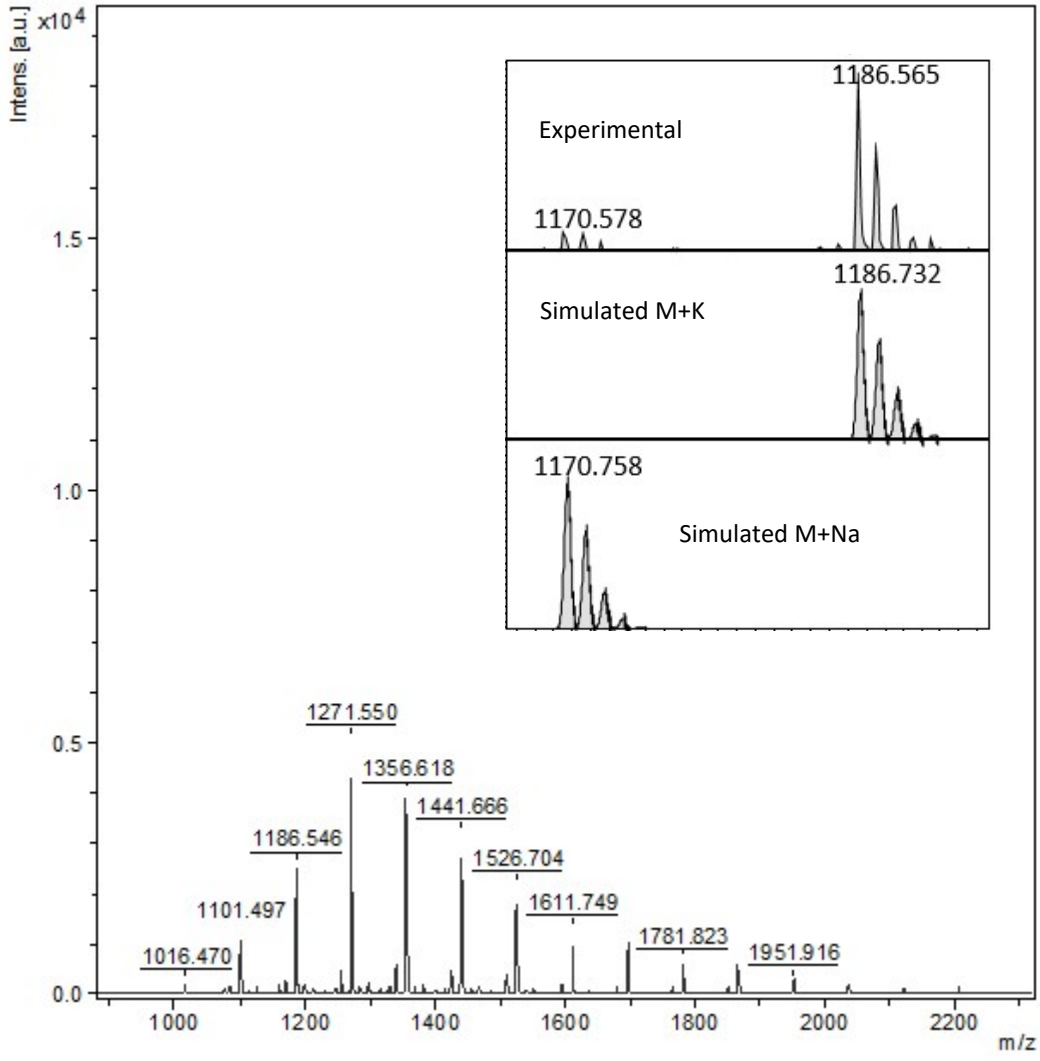

Figure S20. MALDI-TOF-MS spectra of *R*2-15.

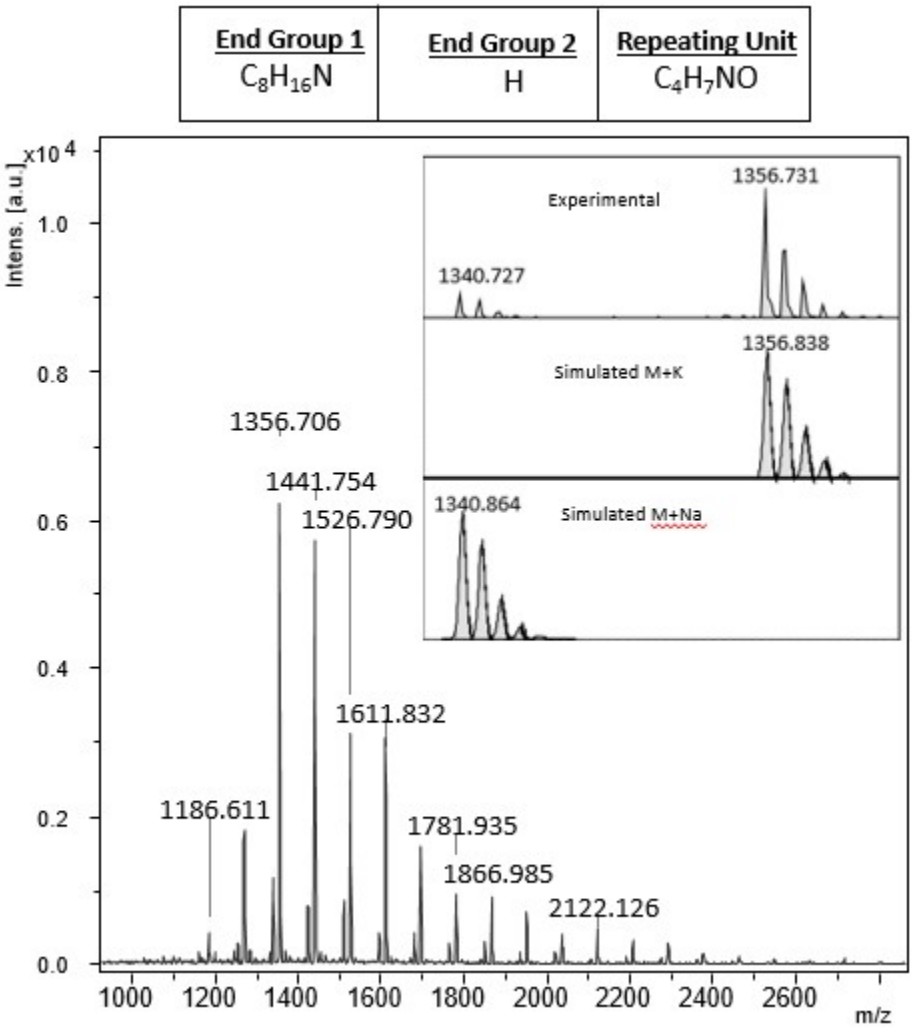

Figure S21. MALDI-TOF-MS spectra of *R*2-14.

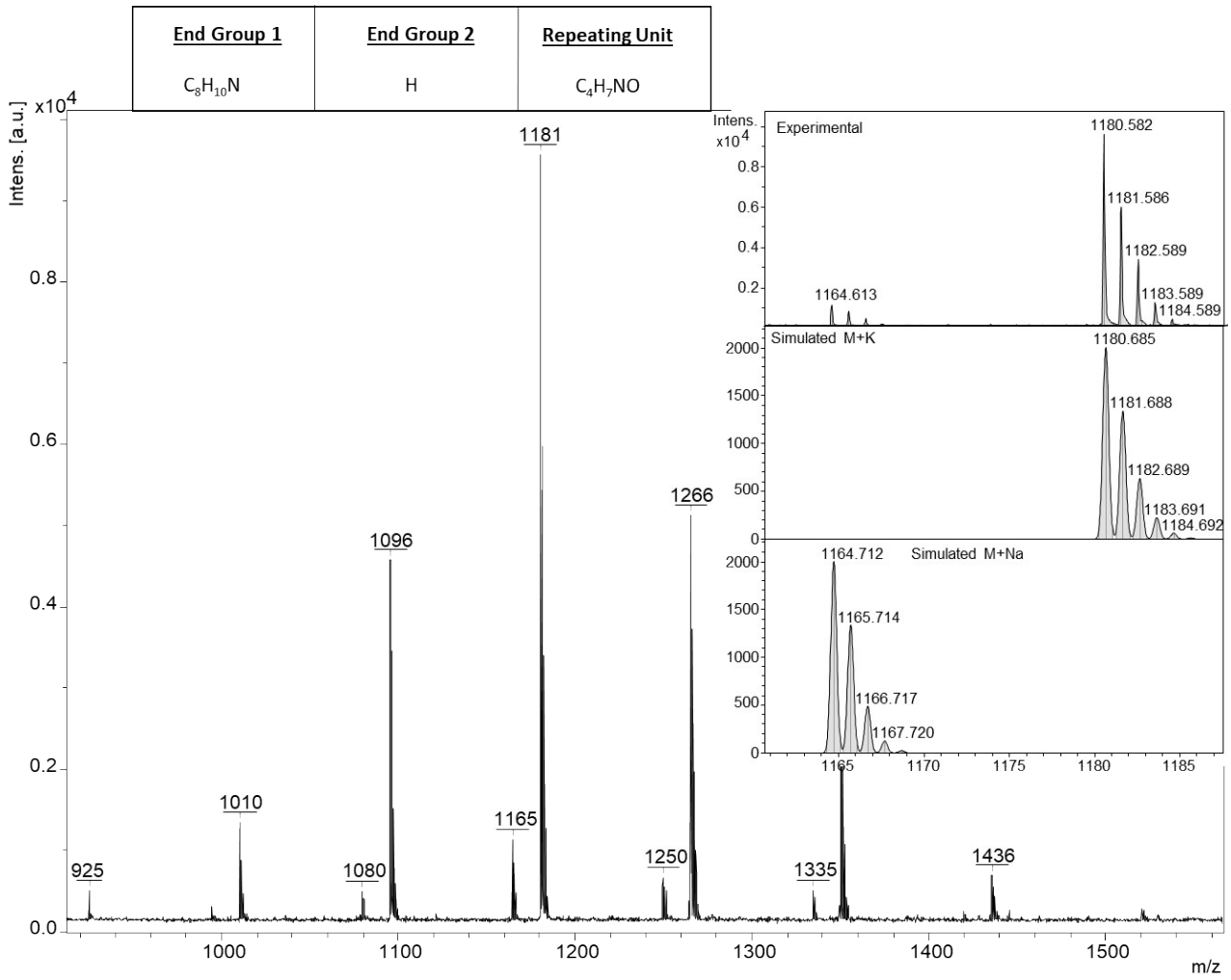

Figure S22. MALDI-TOF-MS spectra of *S*3-16.

End Group 1	End Group 2	Repeating Unit
$C_8H_{10}N$	H	C_4H_7NO

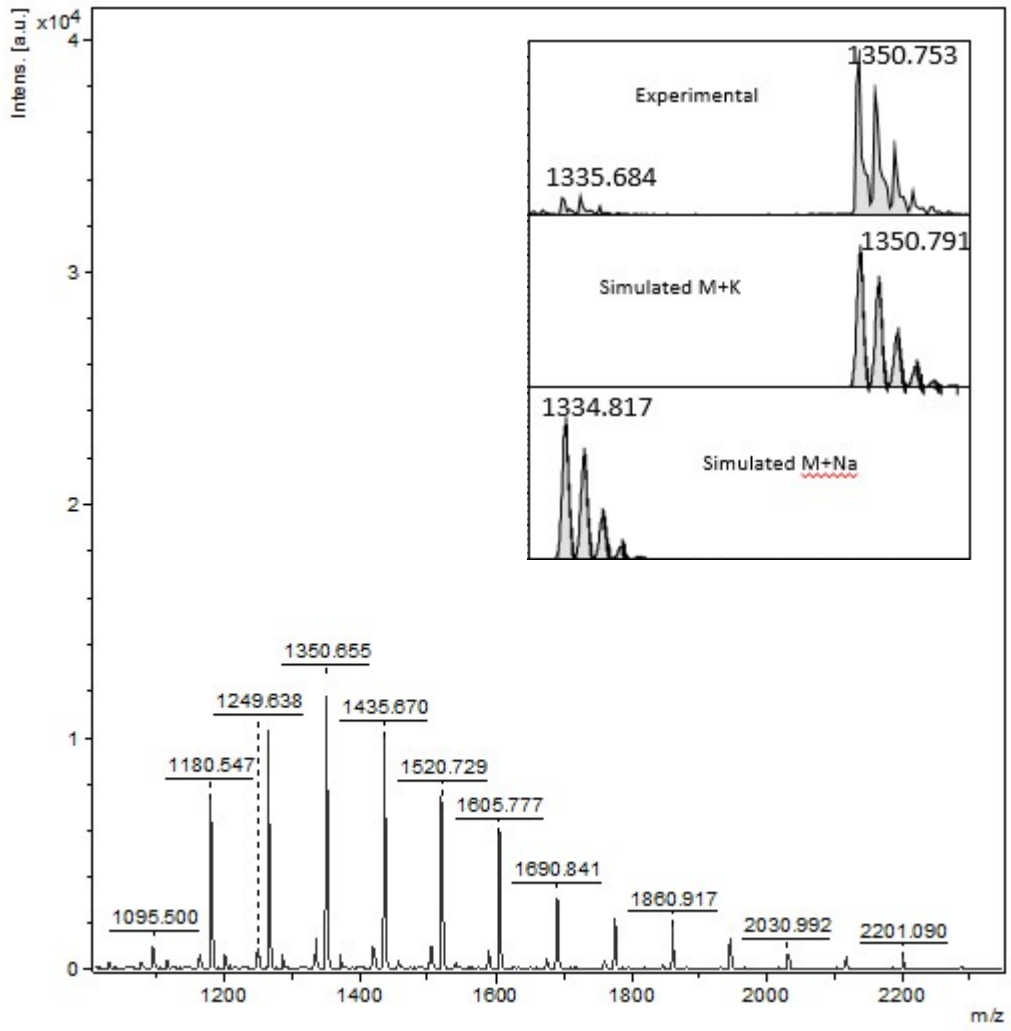

Figure S23. MALDI-TOF-MS spectra of *R*3-17.

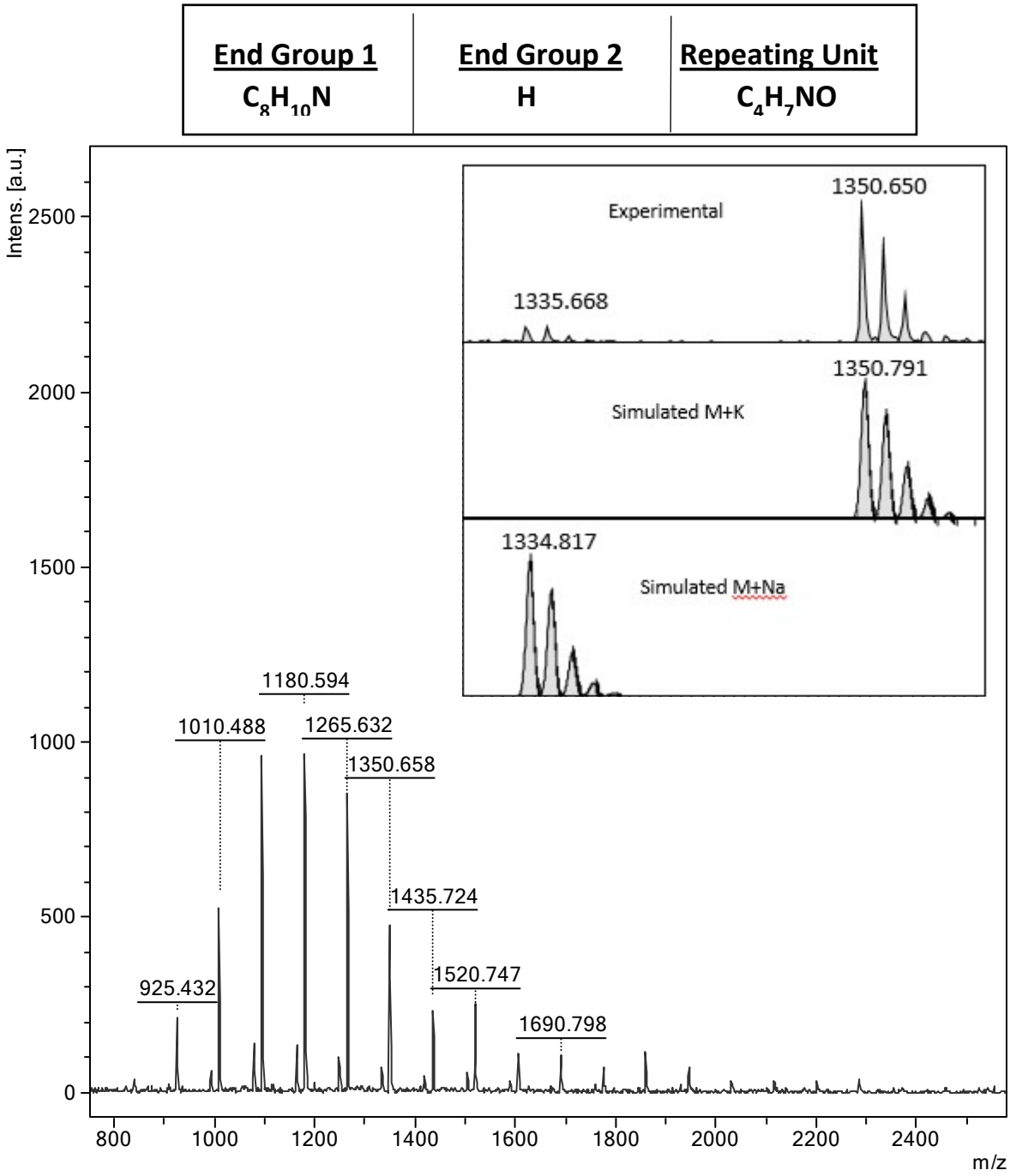

Figure S24. MALDI-TOF-MS spectra of *R*3-18.

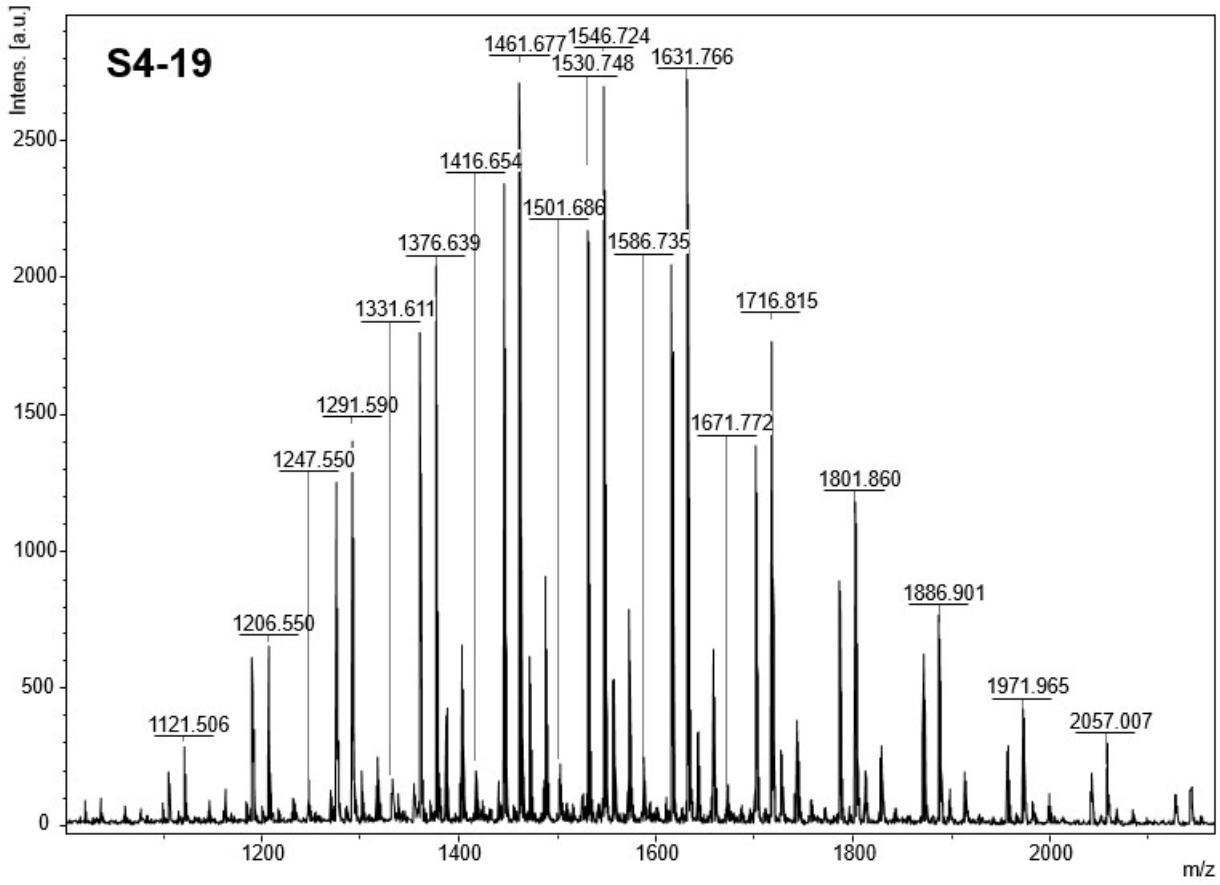

Figure S25. MALDI-TOF-MS spectra of *S*4-19.

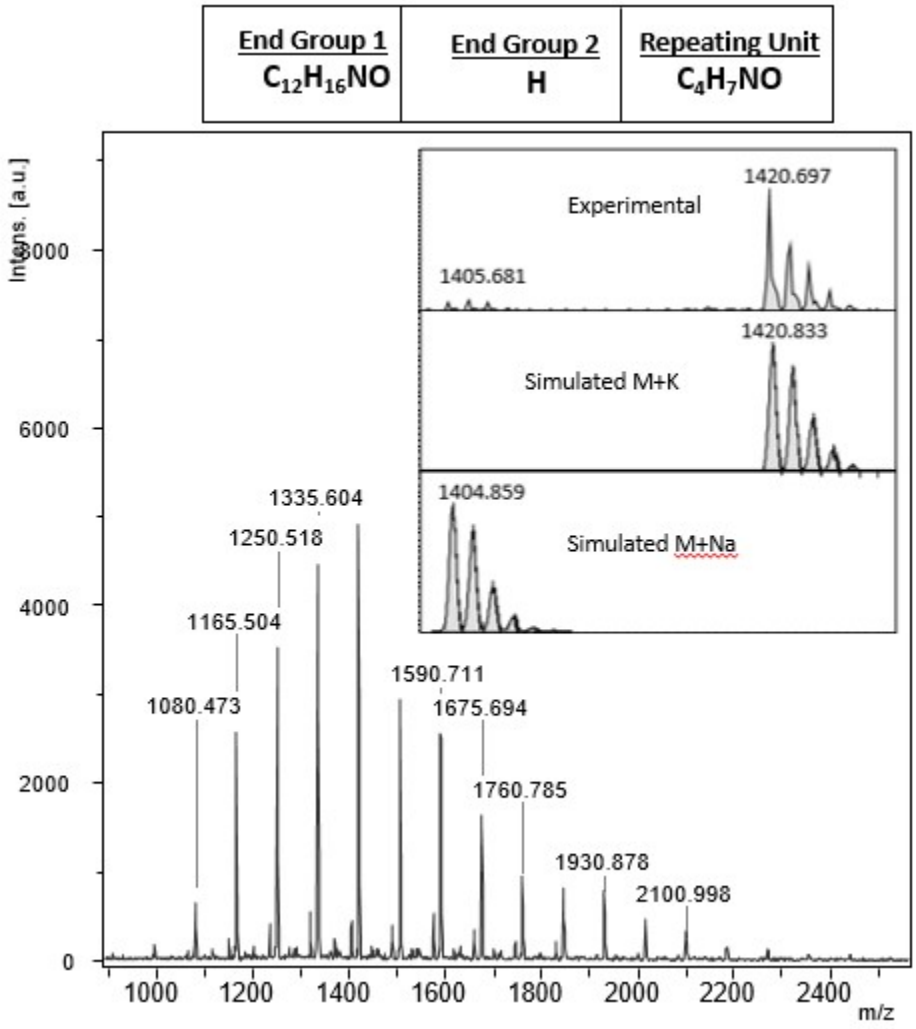

Figure S26. MALDI-TOF-MS spectra of *R*4-20.

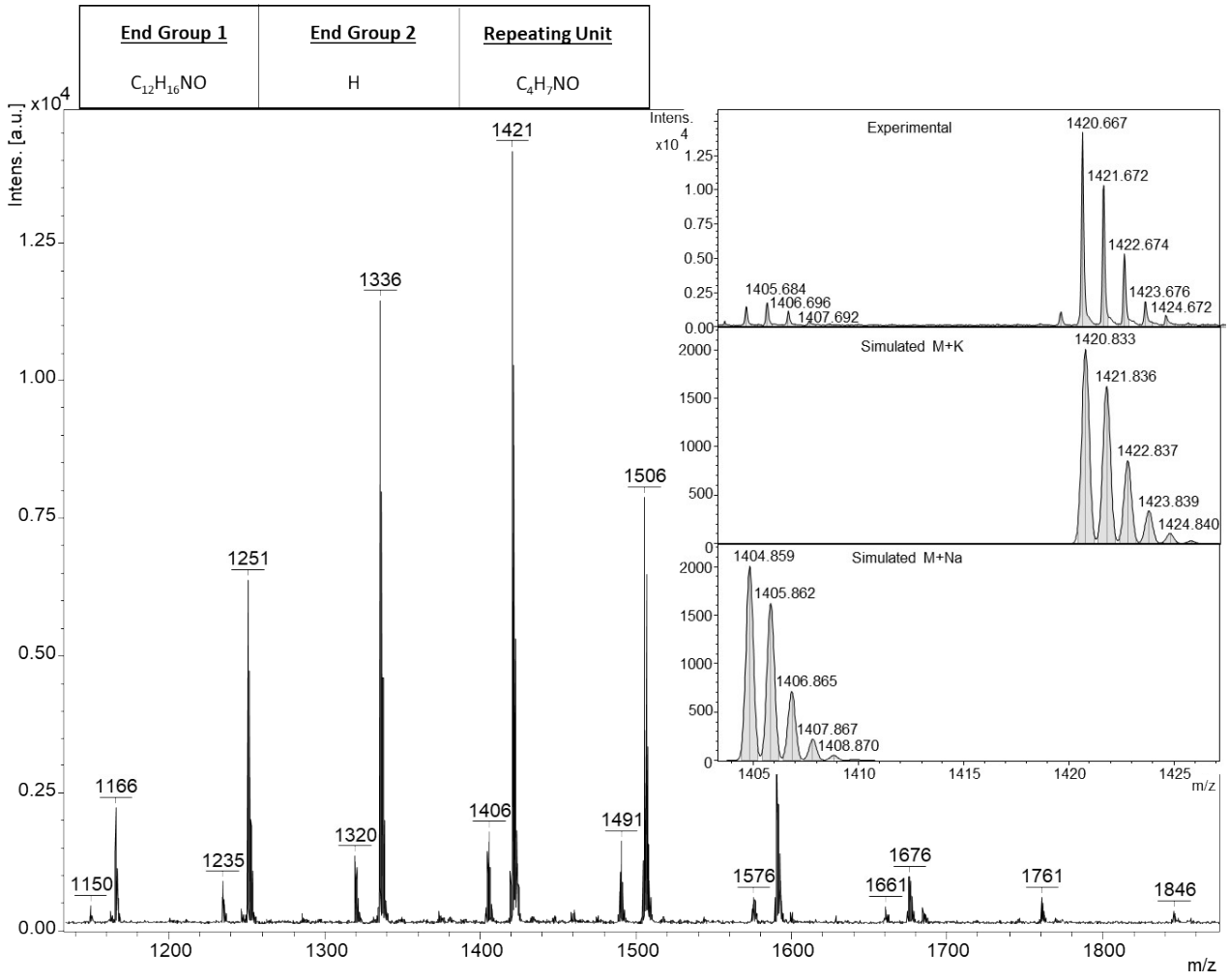

Figure S27. MALDI-TOF-MS spectra of *S*4-21.

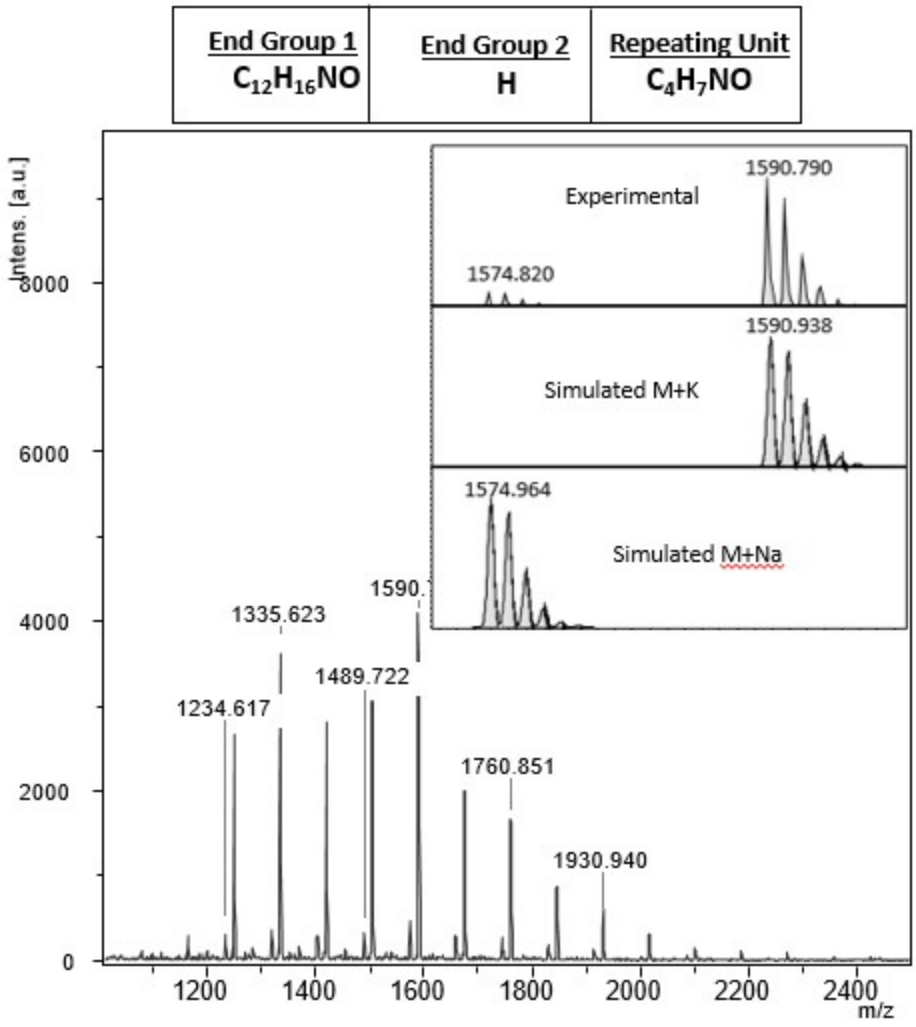

Figure S28. MALDI-TOF-MS spectra of *R*4-22

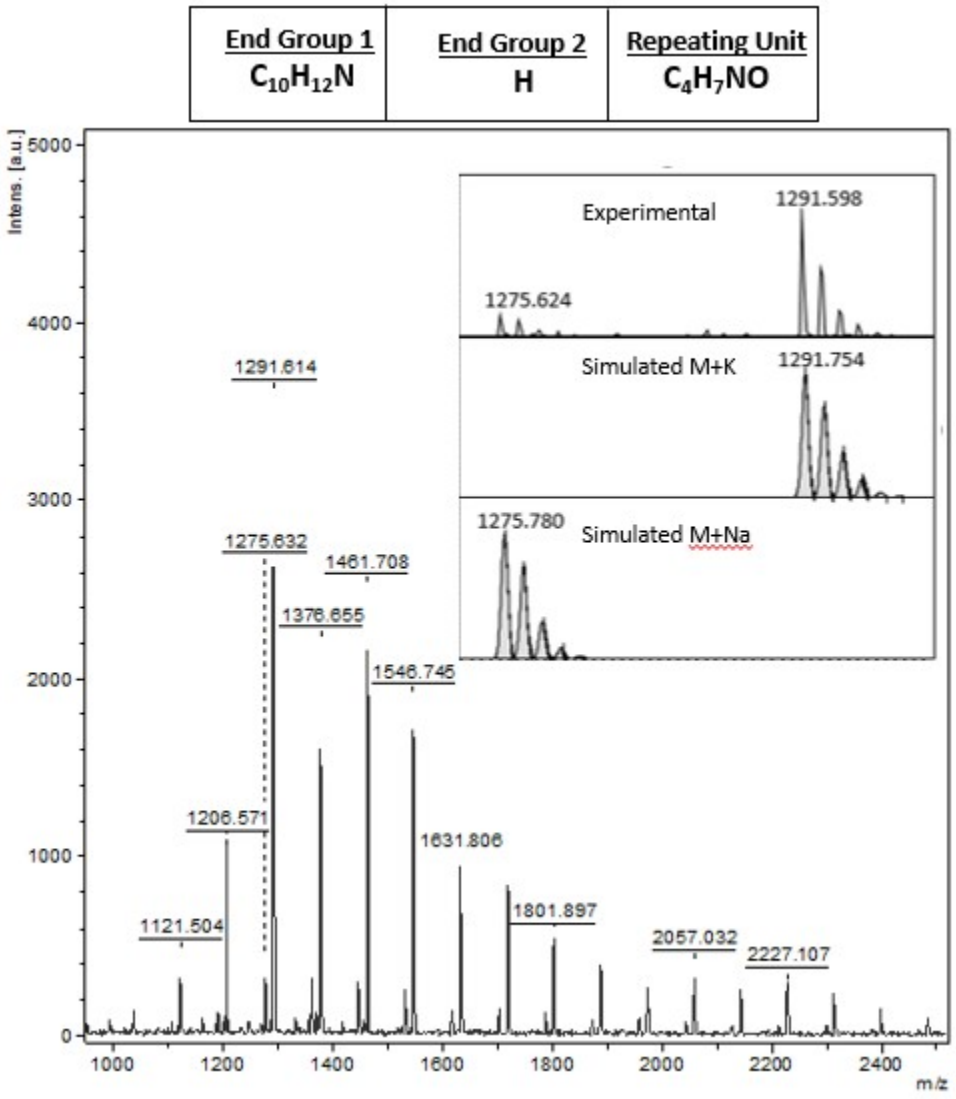

Figure S29. MALDI-TOF-MS spectra of *R*5-23.

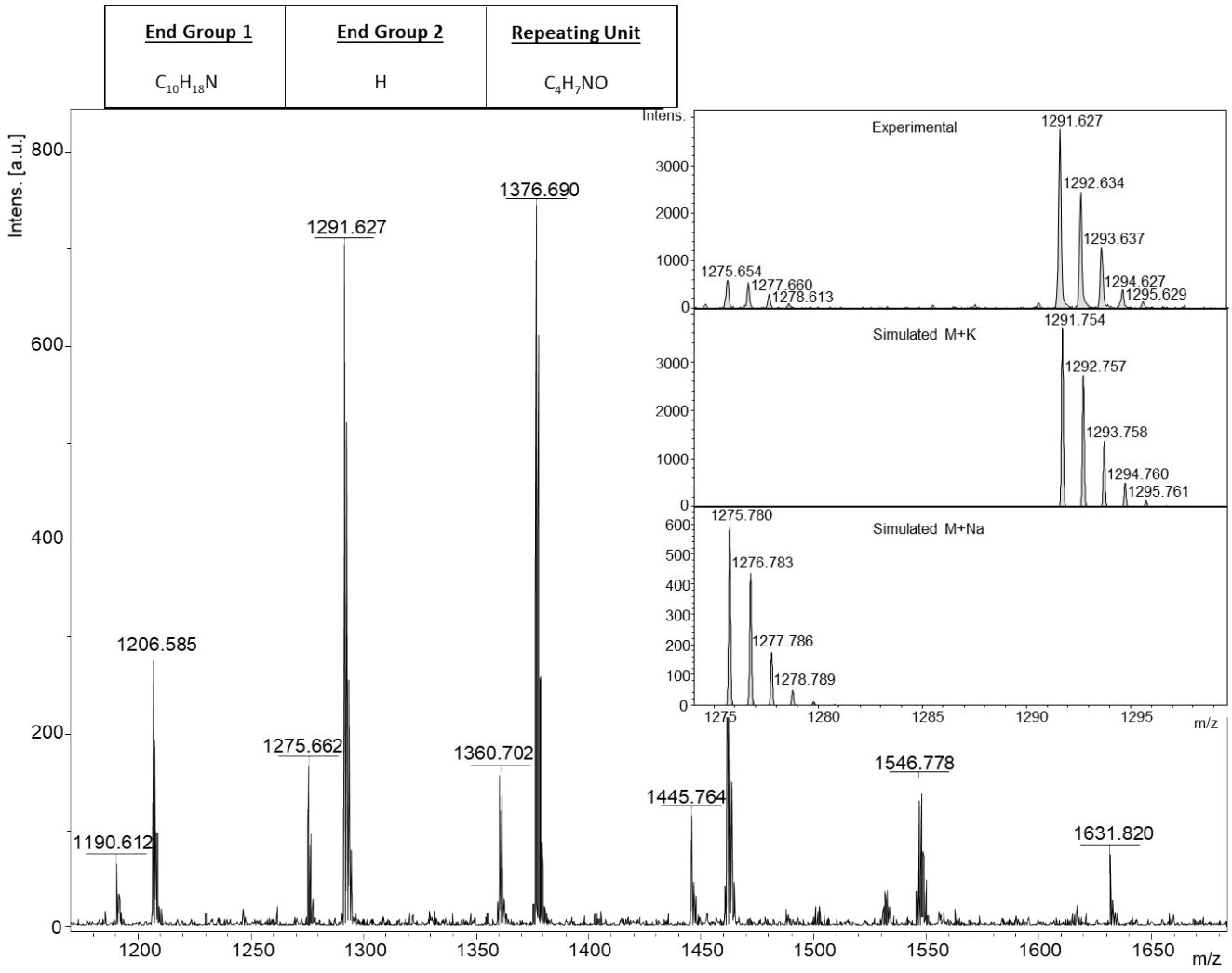

Figure S30. MALDI-TOF-MS spectra of *S*5-24.

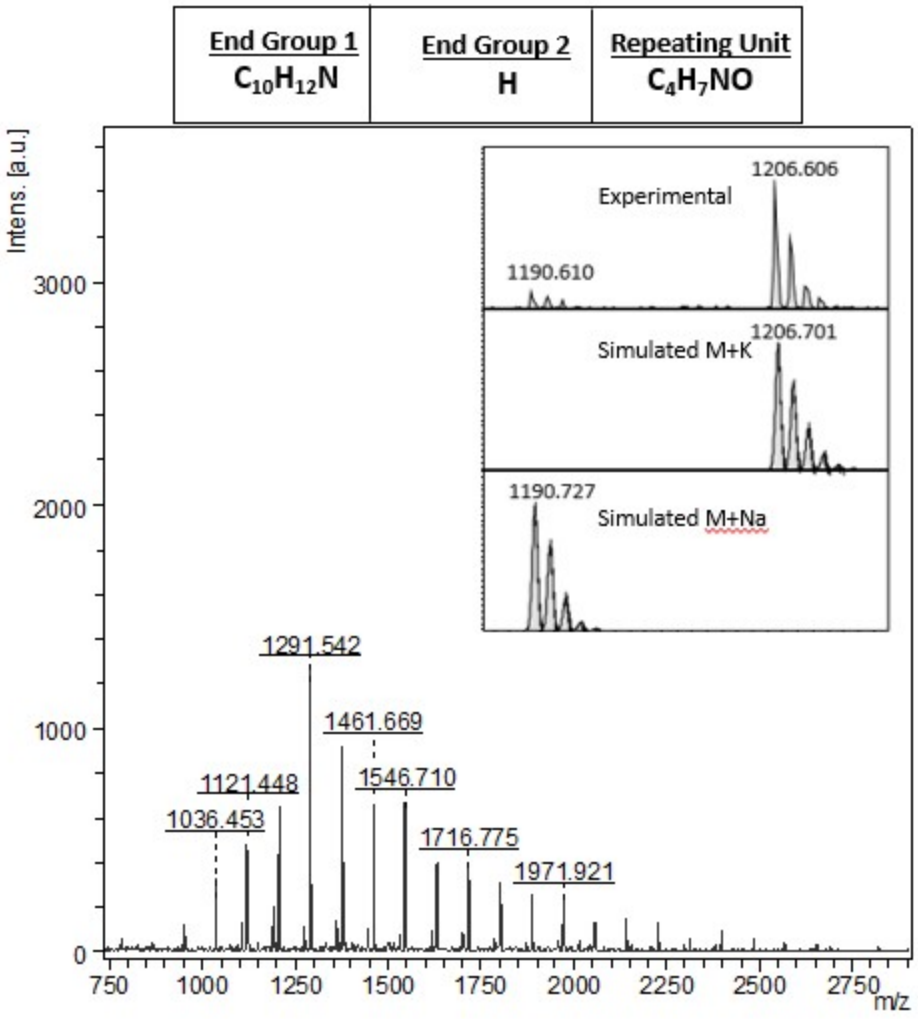

Figure S31. MALDI-TOF-MS spectra of *R*5-25.

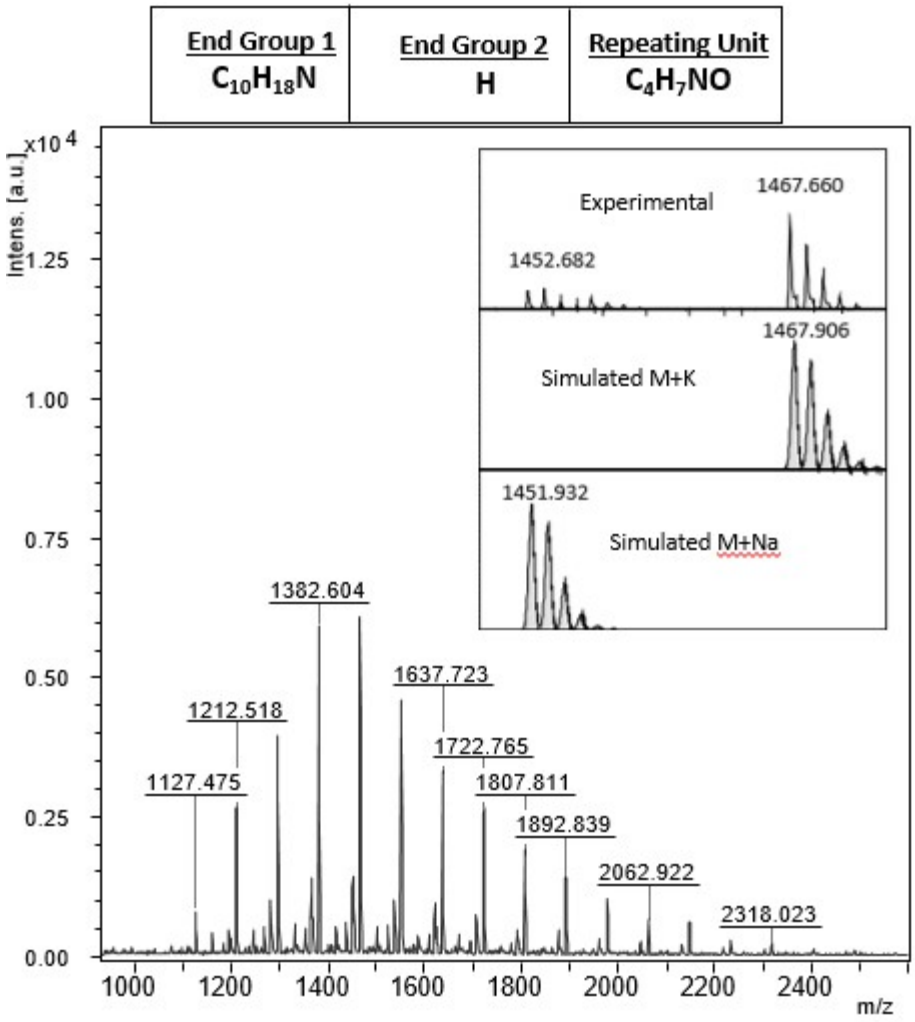

Figure S32. MALDI-TOF-MS spectra of *R*6-26.

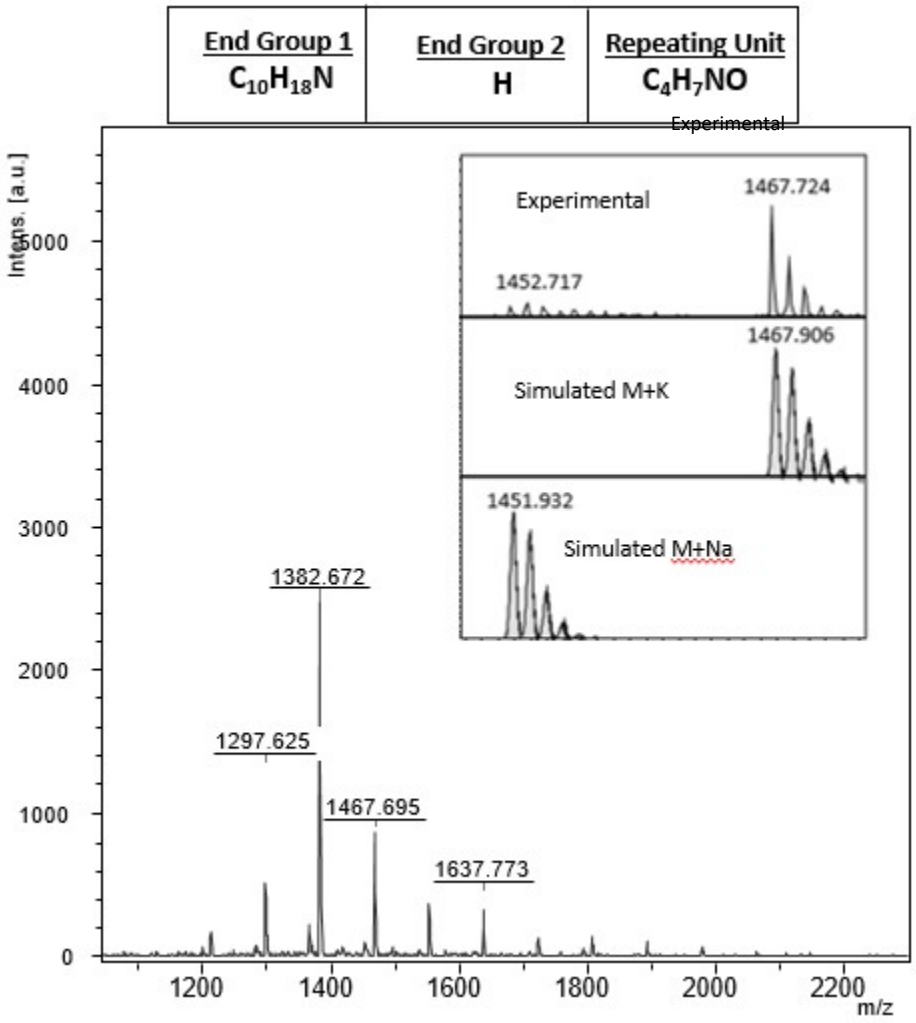

Figure S33. MALDI-TOF-MS spectra of *R*6-28.

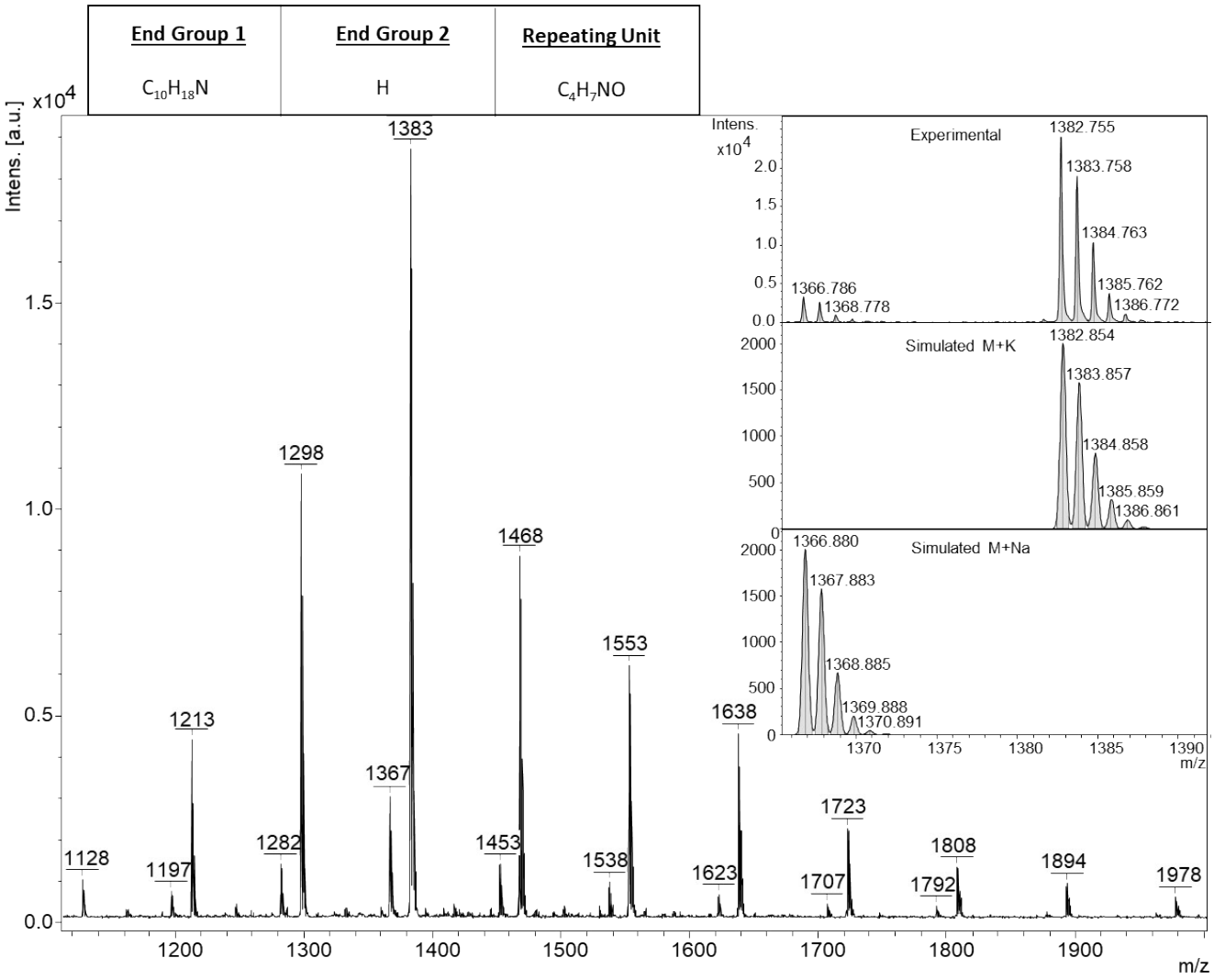

Figure S34. MALDI-TOF-MS spectra of *S*6-27.

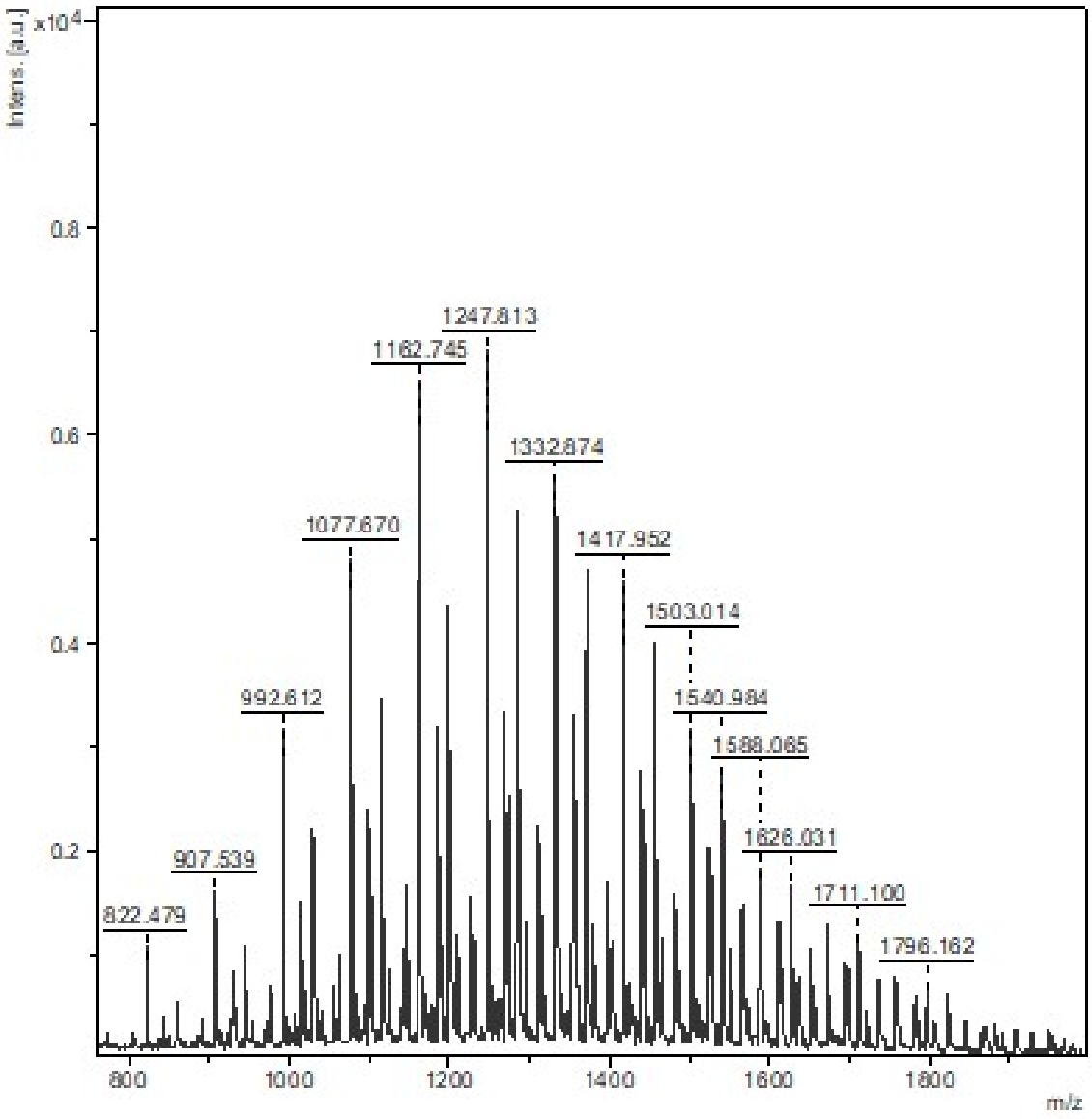

Figure S35. MALDI-TOF-MS spectra of *R*7-31.

Table S1: Content of secondary structure elements estimated by "CD Multivariate SSE" program.

Initiator	Poly(Aib)	α-Helix (% in HFIP / in water)	β-Sheet (% in HFIP / in water)	β-Turn (% in HFIP / in water)	Other (% in HFIP / in water)
(*S*)-*sec*-Butylamine	***S*1-7**	14.2 / 11.1	24.0 / 28.8	19.1 / 18.0	42.7 / 42.0
(*R*)-*sec*-Butylamine	***R*1-6**	16.1 / 16.5	21.4 / 16.7	19.4 / 20.6	43.1 / 46.2
(*S*)-1-Cyclohexylethylamine	***S*2-13**	14.0 / 16.0	23.9 / 21.5	18.9 / 19.8	43.0 / 42.6
(*R*)-1-Cyclohexylethylamine	***R*2-14**	16.0 / 26.6	21.2 / 3.8	19.6 / 25.4	43.2 / 44.2
(*S*)-α-Methylbenzylamine	***S*3-16**	21.1 / 3.0	16.9 / 47.1	19.5 / 14.9	42.5 / 35.0
(*R*)-α-Methylbenzylamine	***R*3-17**	13.2 / 28.9	23.7 / 0.0	19.6 / 26.7	43.5 / 44.4
(1*S*,2*S*)-2-(Benzyloxy)cyclopentanamine	***S*4-21**	17.4 / 12.5	20.8 / 25.6	19.5 / 20.2	42.3 / 41.8
(1*R*,2*R*)-2-(Benzyloxy)cyclopentanamine	***R*4-22**	14.2 / 0.0	23.7 / 48.1	18.7 / 12.7	43.4 / 39.2
(*S*)-1,2,3,4-Tetrahydro-naphthylamine	***S*5-24**	11.7 / 12.0	32.4 / 26.7	18.2 / 19.7	37.6 / 41.6
(*R*)-1,2,3,4-Tetrahydro-naphthylamine	***R*5-23**	17.5 / 24.3	14.2 / 5.2	20.8 / 22.8	47.5 / 47.7
(1*S*,2*S*,3*S*,5*R*)-Isopinocamphenylamine	***S*6-27**	14.5 / 0.8	24.3 / 42.3	18.7 / 15.6	42.4 / 41.3
(1*R*,2*R*,3*R*,5*S*)-Isopinocamphenylamine	***R*6-28**	16.2 / 46.0	21.0 / 0.0	19.5 / 24.0	43.3 / 30.0

Table S2: Secondary structure estimation of Poly(Aib) in water/HFIP mixture via BestSel between 200 and 250 nm.

Initiator	Poly(Aib)	Helix (%)	β-Sheet antiparallel (%)	β-Sheet parallel (%)	β-Turn (%)	Other (%)
(*S*)-*sec*-Butylamine	***S*1-7**	1.5	36.2	0.0	15.7	46.7
(*R*)-*sec*-Butylamine	***R*1-6**	1.0	38.6	0.0	15.3	45.1
(*S*)-1-Cyclohexylethylamine	***S*2-13**	1.4	36.8	0.0	15.5	46.2
(*R*)-1-Cyclohexylethylamine	***R*2-14**	1.2	37.8	0.0	15.5	45.6
(*S*)-α-Methylbenzylamine	***S*3-16**	0.0	37.0	0.0	15.6	47.3
(*R*)-α-Methylbenzylamine	***R*3-17**	1.5	37.0	0.0	16.4	45.2
(1*S*,2*S*)-2-(Benzyloxy)cyclopentanamine	***S*4-21**	0.5	44.7	0.0	14.6	40.1
(1*R*,2*R*)-2-(Benzyloxy)cyclopentanamine	***R*4-22**	2.1	35.5	0.0	16.1	46.3
(*S*)-1,2,3,4-Tetrahydro-naphthylamine	***S*5-24**	0.9	37.9	0.0	16.2	45.0
(*R*)-1,2,3,4-Tetrahydro-naphthylamine	***R*5-23**	0.0	35.3	0.0	16.2	48.5
(1*S*,2*S*,3*S*,5*R*)-Isopinocamphenylamine	***S*6-27**	0.6	33.8	0.0	17.7	47.8
(1*R*,2*R*,3*R*,5*S*)-Isopinocamphenylamine	***R*6-28**	0.1	38.8	0.0	15.0	46.0