

## SUPPLEMENTARY INFORMATION

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### Evaluation of pH-dependent amphiphilic carbosilane dendrons in micelle formation, drug loading and HIV-1 infection

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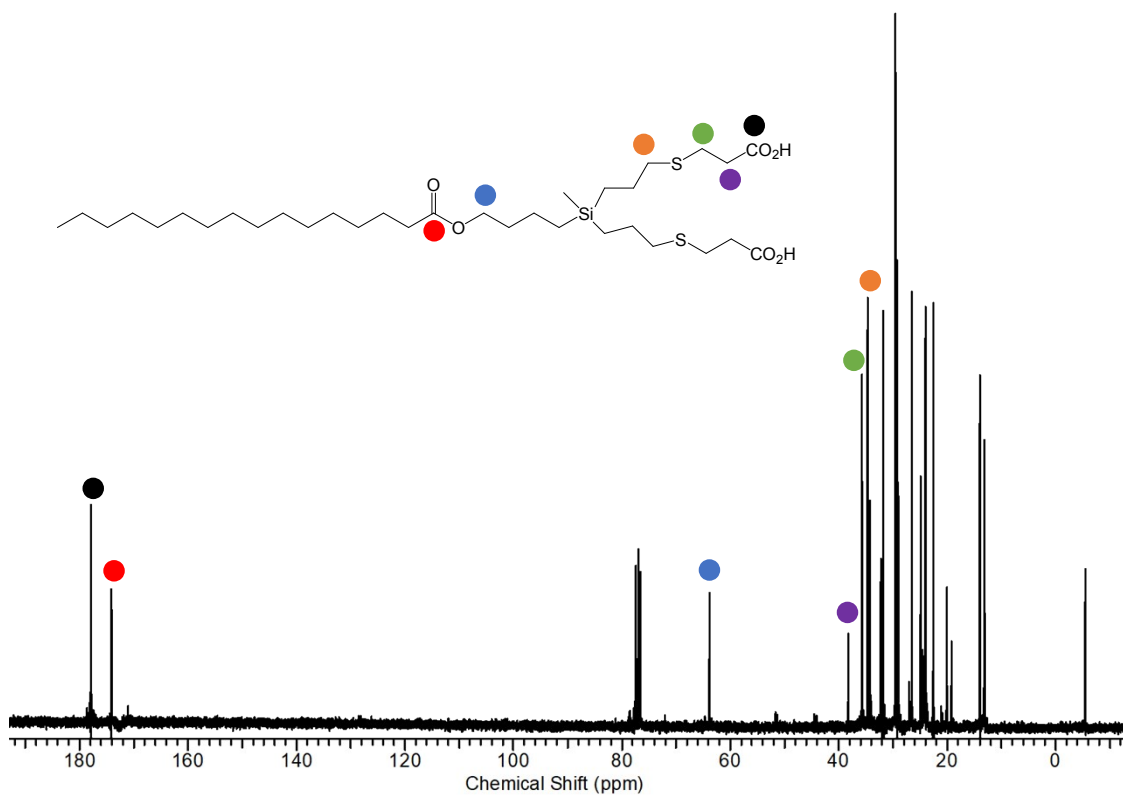
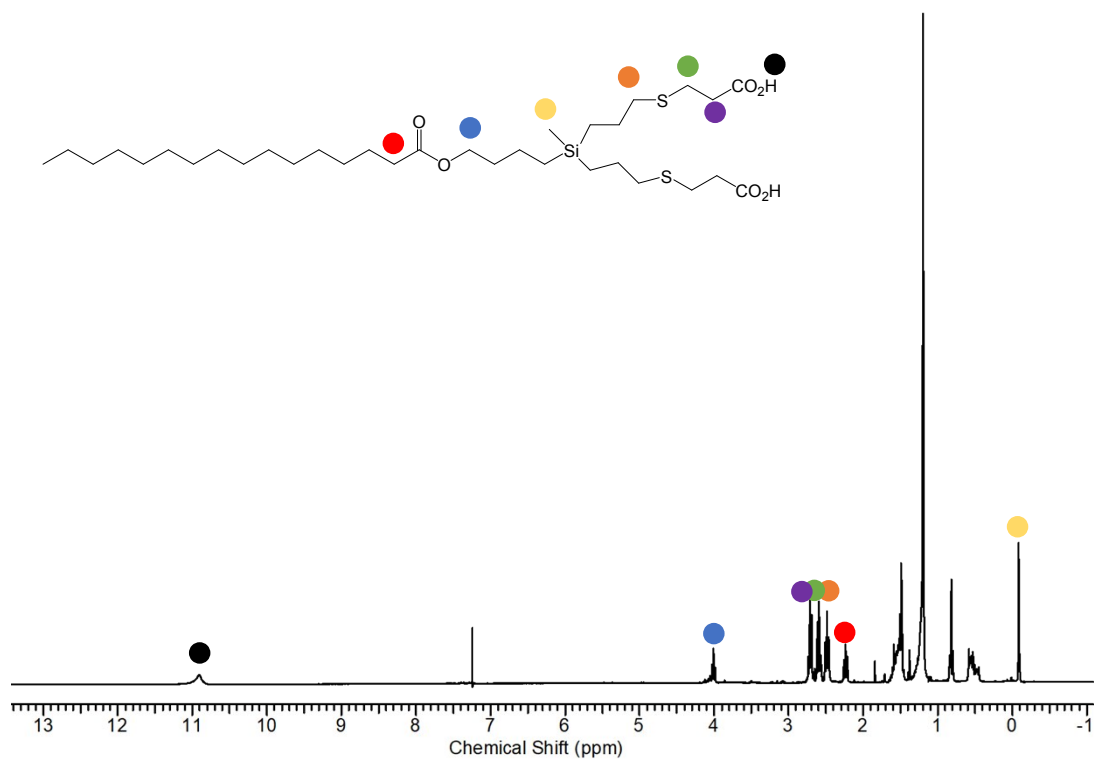
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## Table of contents

Figure S1. $^1\text{H-NMR}$ spectrum of dendron $\text{PalG}_1(\text{S-CO}_2\text{H})_2$ ( <b>1</b> ) in $\text{CDCl}_3$ .	4
Figure S2. $^{13}\text{C-NMR}$ spectrum of dendron $\text{PalG}_1(\text{S-CO}_2\text{H})_2$ ( <b>1</b> ) in $\text{CDCl}_3$ .	4
Figure S3. Molecular ion spectrum of dendron $\text{PalG}_1(\text{S-CO}_2\text{H})_2$ ( <b>1</b> ).	5
Figure S4. $^1\text{H-NMR}$ spectrum of dendron $\text{PalG}_2(\text{S-CO}_2\text{H})_4$ ( <b>2</b> ) in $\text{CDCl}_3$ .	5
Figure S5. $^{13}\text{C-NMR}$ spectrum of dendron $\text{PalG}_2(\text{S-CO}_2\text{H})_4$ ( <b>2</b> ) in $\text{CDCl}_3$ .	6
Figure S6. Molecular ion spectrum of dendron $\text{PalG}_2(\text{S-CO}_2\text{H})_4$ ( <b>2</b> ).	6
Figure S7. $^1\text{H-NMR}$ spectrum of dendron $\text{PalG}_3(\text{S-CO}_2\text{H})_8$ ( <b>3</b> ) in $\text{CDCl}_3$ .	7
Figure S8. $^{13}\text{C-NMR}$ spectrum of dendron $\text{PalG}_3(\text{S-CO}_2\text{H})_8$ ( <b>3</b> ) in $\text{CDCl}_3$ .	7
Figure S9. Molecular ion spectrum of dendron $\text{PalG}_3(\text{S-CO}_2\text{H})_8$ ( <b>3</b> ).	8
Figure S10. $^1\text{H-NMR}$ spectrum of dendron $\text{PalG}_1(\text{S-(CO}_2\text{H)}_2)_2$ ( <b>4</b> ) in $\text{CD}_3\text{OD}$ .	8
Figure S11. $^{13}\text{C-NMR}$ spectrum of dendron $\text{PalG}_1(\text{S-(CO}_2\text{H)}_2)_2$ ( <b>4</b> ) in $\text{CD}_3\text{OD}$ .	9
Figure S12. Molecular ion spectrum of dendron $\text{PalG}_1(\text{S-(CO}_2\text{H)}_2)_2$ ( <b>4</b> ).	9
Figure S13. $^1\text{H-NMR}$ spectrum of dendron $\text{PalG}_2(\text{S-(CO}_2\text{H)}_2)_4$ ( <b>5</b> ) in $\text{CD}_3\text{OD}$ .	10
Figure S14. $^{13}\text{C-NMR}$ spectrum of dendron $\text{PalG}_2(\text{S-(CO}_2\text{H)}_2)_4$ ( <b>5</b> ) in $\text{CD}_3\text{OD}$ .	10
Figure S15. Molecular ion spectrum of dendron $\text{PalG}_2(\text{S-(CO}_2\text{H)}_2)_4$ ( <b>5</b> ).	11
Figure S16. $^1\text{H-NMR}$ spectrum of dendron $\text{PalG}_3(\text{S-(CO}_2\text{H)}_2)_8$ ( <b>6</b> ) in $\text{CD}_3\text{OD}$ .	11
Figure S17. $^{13}\text{C-NMR}$ spectrum of dendron $\text{PalG}_3(\text{S-(CO}_2\text{H)}_2)_8$ ( <b>6</b> ) in $\text{CD}_3\text{OD}$ .	12
Figure S18. Molecular ion spectrum of dendron $\text{PalG}_3(\text{S-(CO}_2\text{H)}_2)_8$ ( <b>6</b> ).	12
Figure S19. $^1\text{H-NMR}$ spectrum of dendron $\text{PalG}_1(\text{S-CO}_2\text{Na})_2$ ( <b>7</b> ) in $\text{D}_2\text{O}$ .	13
Figure S20. $^{13}\text{C-NMR}$ spectrum of dendron $\text{PalG}_1(\text{S-CO}_2\text{Na})_2$ ( <b>7</b> ) in $\text{D}_2\text{O}$ .	13
Figure S21. Molecular ion spectrum of dendron $\text{PalG}_1(\text{S-CO}_2\text{Na})_2$ ( <b>7</b> ).	14
Figure S22. $^1\text{H-NMR}$ spectrum of dendron $\text{PalG}_2(\text{S-CO}_2\text{Na})_4$ ( <b>8</b> ) in $\text{D}_2\text{O}$ .	14
Figure S23. $^{13}\text{C-NMR}$ spectrum of dendron $\text{PalG}_2(\text{S-CO}_2\text{Na})_4$ ( <b>8</b> ) in $\text{D}_2\text{O}$ .	15
Figure S24. Molecular ion spectrum of dendron $\text{PalG}_2(\text{S-CO}_2\text{Na})_4$ ( <b>8</b> ).	15
Figure S25. $^1\text{H-NMR}$ spectrum of dendron $\text{PalG}_3(\text{S-CO}_2\text{Na})_8$ ( <b>8</b> ) in $\text{D}_2\text{O}$ .	16
Figure S26. $^{13}\text{C-NMR}$ spectrum of dendron $\text{PalG}_3(\text{S-CO}_2\text{Na})_8$ ( <b>8</b> ) in $\text{D}_2\text{O}$ .	16
Figure S27. Molecular ion spectrum of dendron $\text{PalG}_3(\text{S-CO}_2\text{Na})_8$ ( <b>8</b> ).	17
Figure S28. $^1\text{H-NMR}$ spectrum of dendron $\text{PalG}_1(\text{S-(CO}_2\text{H)}_2)_2$ ( <b>10</b> ) in $\text{D}_2\text{O}$ .	17
Figure S29. $^{13}\text{C-NMR}$ spectrum of dendron $\text{PalG}_1(\text{S-(CO}_2\text{Na)}_2)_2$ ( <b>10</b> ) in $\text{D}_2\text{O}$ .	18
Figure S30. Mass spectrum of dendron $\text{PalG}_1(\text{S-(CO}_2\text{Na)}_2)_2$ ( <b>10</b> ).	18
Figure S31. $^1\text{H-NMR}$ spectrum of dendron $\text{PalG}_2(\text{S-(CO}_2\text{H)}_2)_4$ ( <b>11</b> ) in $\text{D}_2\text{O}$ .	19
Figure S32. $^{13}\text{C-NMR}$ spectrum of dendron $\text{PalG}_2(\text{S-(CO}_2\text{Na)}_2)_4$ ( <b>11</b> ) in $\text{D}_2\text{O}$ .	19
Figure S33. Mass spectrum of dendron $\text{PalG}_2(\text{S-(CO}_2\text{Na)}_2)_4$ ( <b>11</b> ).	20
Figure S34. $^1\text{H-NMR}$ spectrum of dendron $\text{PalG}_3(\text{S-(CO}_2\text{H)}_2)_8$ ( <b>12</b> ) in $\text{D}_2\text{O}$ .	20
Figure S35. $^{13}\text{C-NMR}$ spectrum of dendron $\text{PalG}_3(\text{S-(CO}_2\text{Na)}_2)_8$ ( <b>12</b> ) in $\text{D}_2\text{O}$ .	21

Figure S36. Mass spectrum of dendron $\text{PalG}_3(\text{S}-(\text{CO}_2\text{Na})_2)_8$ ( <b>12</b> ).....	21
Figure S37. Size distribution of $\text{PalG}_n(\text{S}-\text{CO}_2\text{Na})_m$ ( <b>7-8</b> ) measured by DLS. ....	22
Figure S38. Size distribution of $\text{PalG}_n(\text{S}-(\text{CO}_2\text{Na})_2)_m$ ( <b>10-11</b> ) measured by DLS.....	22
Figure S39. Size distribution of $\text{PalG}_1(\text{S}-\text{CO}_2\text{Na})_2$ ( <b>7</b> ) with and without ibuprofen sodium salt measured by DLS. ....	23
Figure S40. $1/F-F_0$ vs $1/([\text{Drug}]+[\text{Dendron}]-\text{CMC})$ graphic of ibuprofen sodium salt encapsulated by <b>7</b> .....	23
Figure S41. $1/(F-F_0)$ vs $1/([\text{Drug}]+[\text{Dendron}]-\text{CMC})$ graphic of procaine hydrochloride encapsulated by <b>7</b> .....	24
Figure S42. $1/(F-F_0)$ vs $1/([\text{Drug}]+[\text{Dendron}]-\text{CMC})$ graphic of ibuprofen sodium salt encapsulated by <b>10</b> .....	24
Figure S43. $1/(F-F_0)$ vs $1/([\text{Drug}]+[\text{Dendron}]-\text{CMC})$ graphic of procaine hydrochloride encapsulated by <b>10</b> .....	25



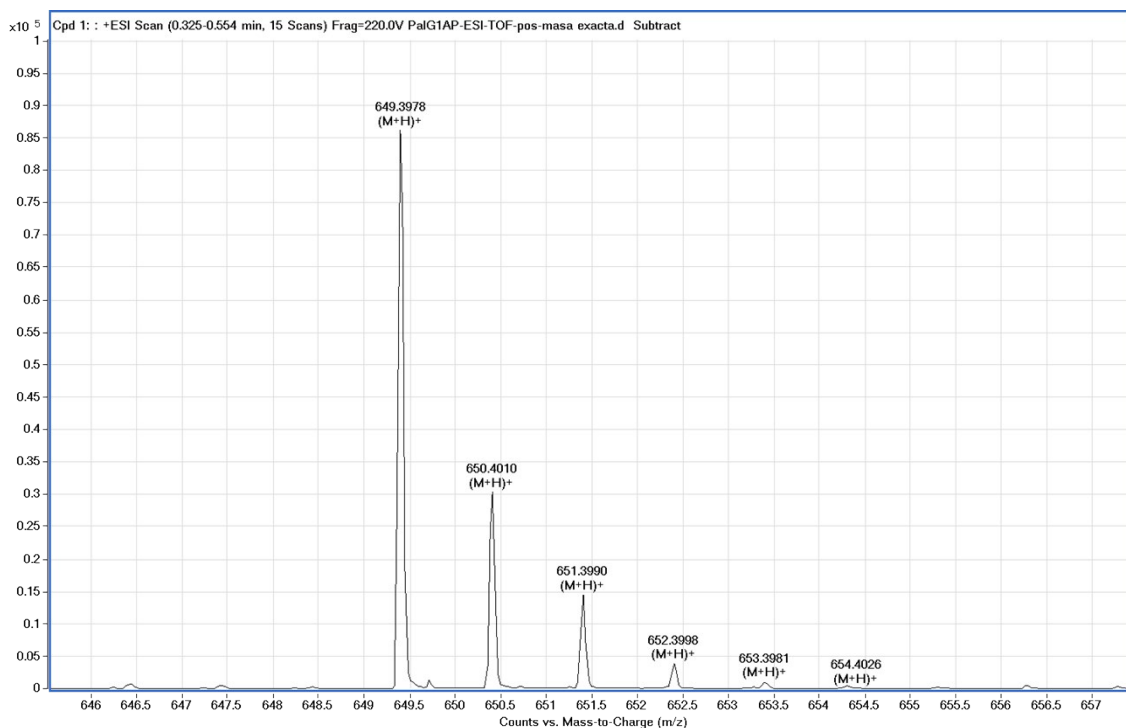


Figure S3. Molecular ion spectrum of dendron PalG<sub>1</sub>(S-CO<sub>2</sub>H)<sub>2</sub> (**1**).

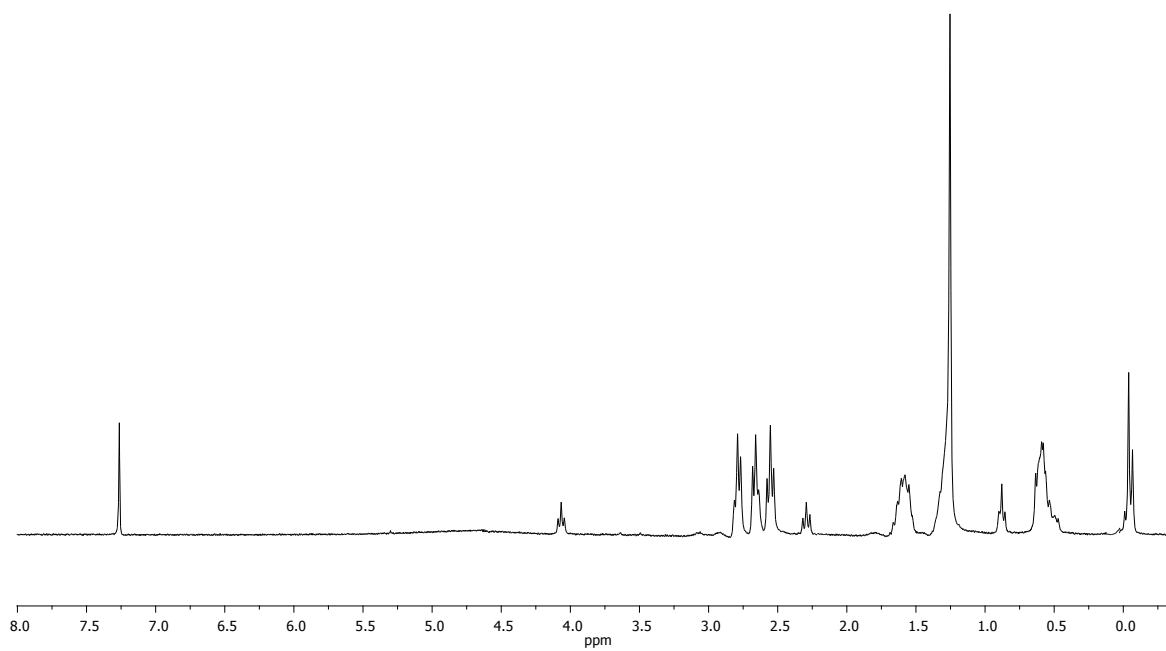


Figure S4. <sup>1</sup>H-NMR spectrum of dendron PalG<sub>2</sub>(S-CO<sub>2</sub>H)<sub>4</sub> (**2**) in CDCl<sub>3</sub>.

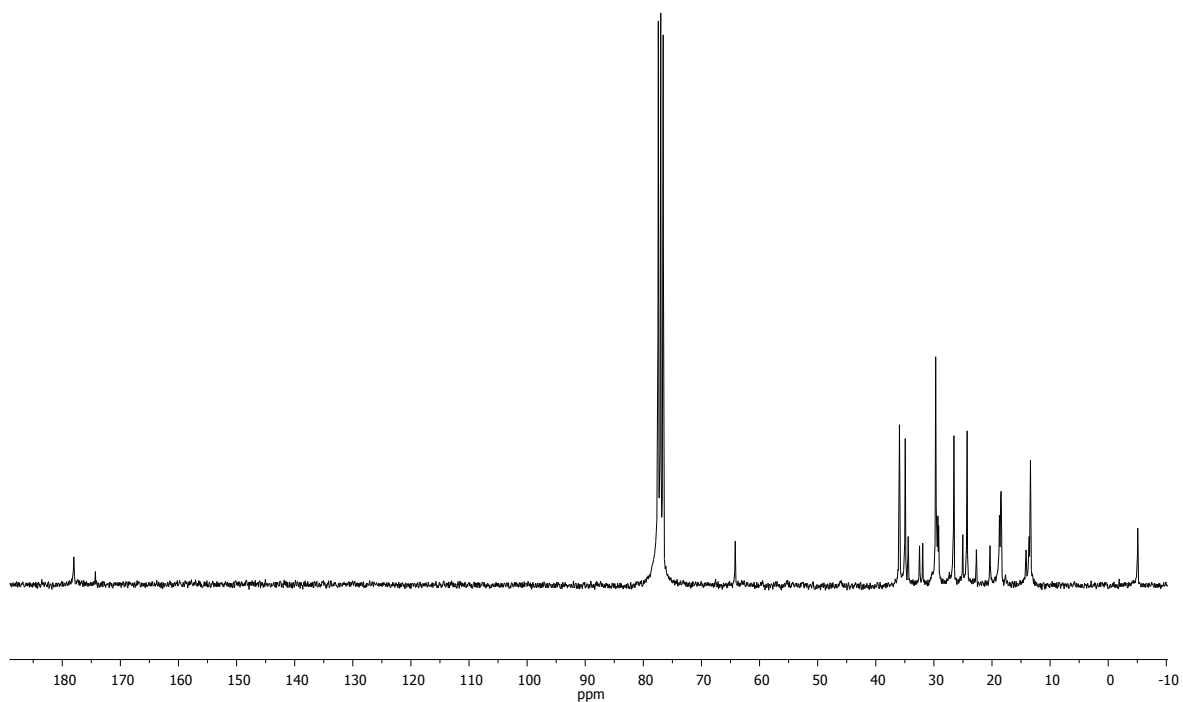


Figure S5.  $^{13}\text{C}$ -NMR spectrum of dendron  $\text{PaIG}_2(\text{S-CO}_2\text{H})_4$  (**2**) in  $\text{CDCl}_3$ .

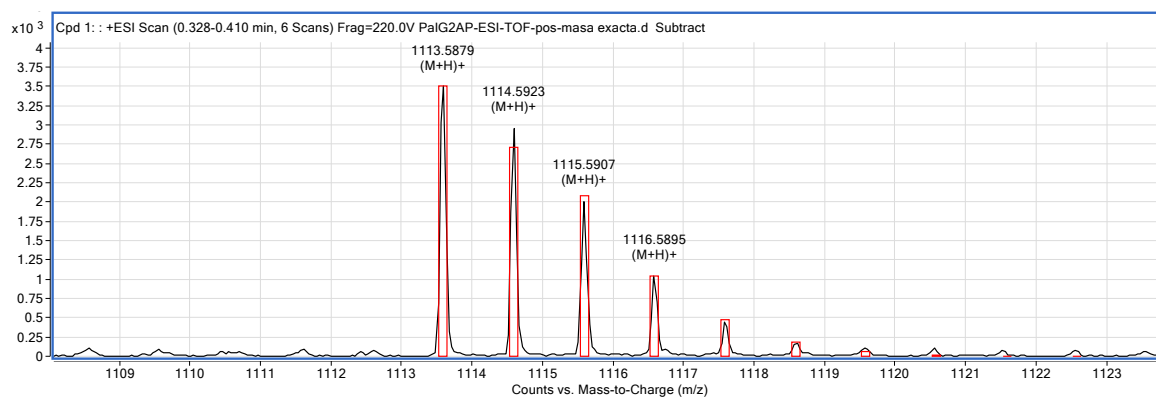


Figure S6. Molecular ion spectrum of dendron  $\text{PaIG}_2(\text{S-CO}_2\text{H})_4$  (**2**).

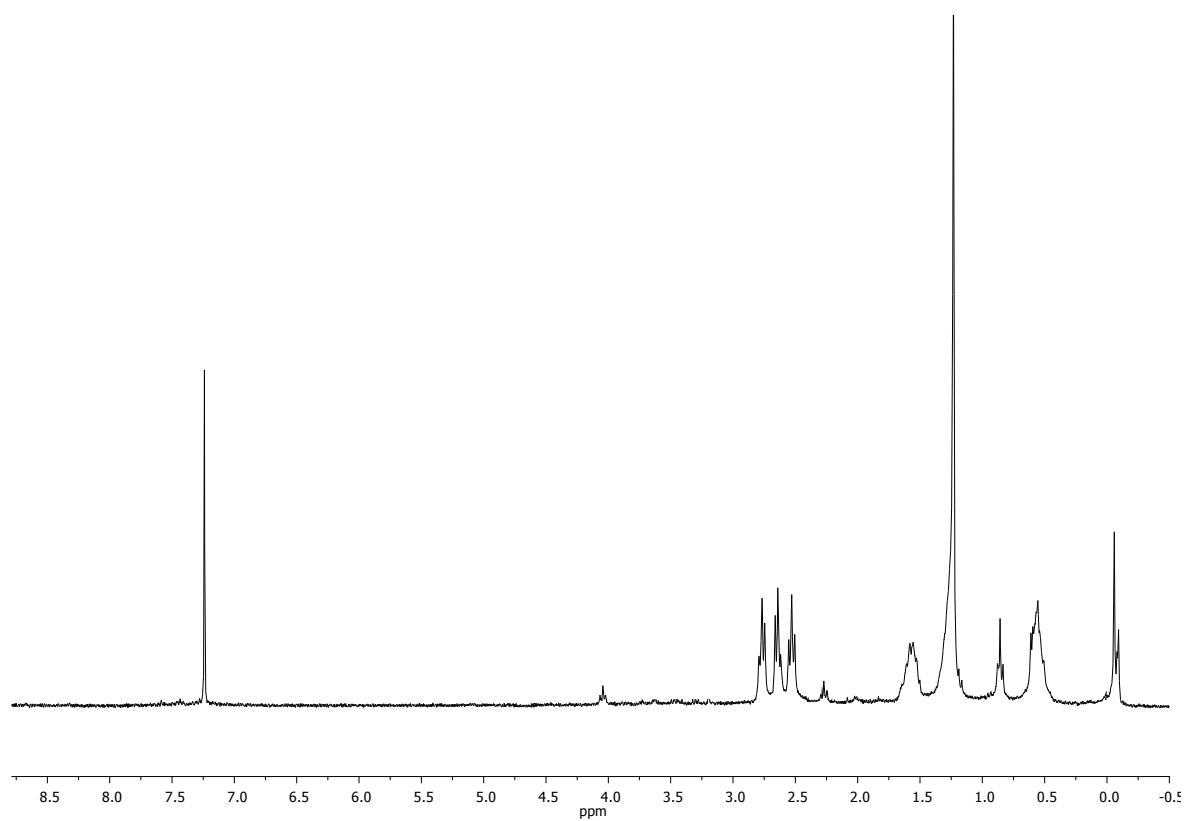


Figure S7. <sup>1</sup>H-NMR spectrum of dendron PaIG<sub>3</sub>(S-CO<sub>2</sub>H)<sub>8</sub> (**3**) in CDCl<sub>3</sub>.

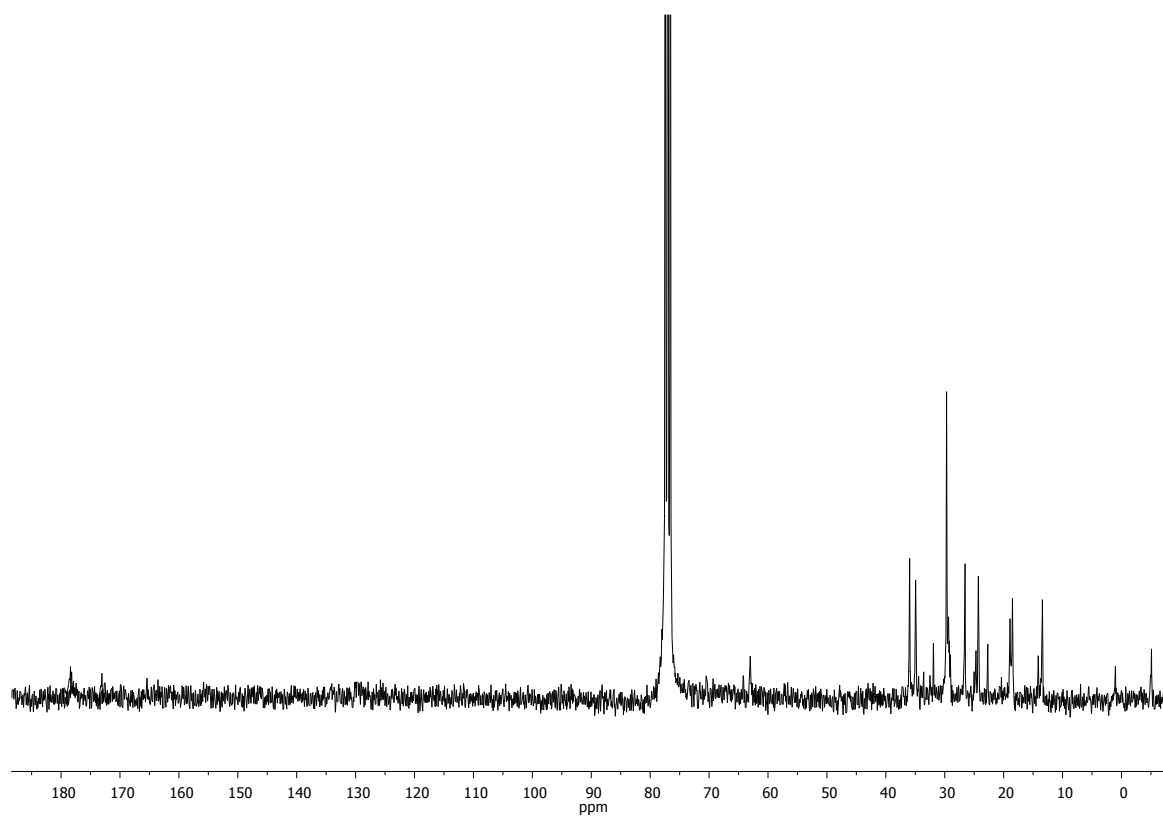


Figure S8. <sup>13</sup>C-NMR spectrum of dendron PaIG<sub>3</sub>(S-CO<sub>2</sub>H)<sub>8</sub> (**3**) in CDCl<sub>3</sub>.

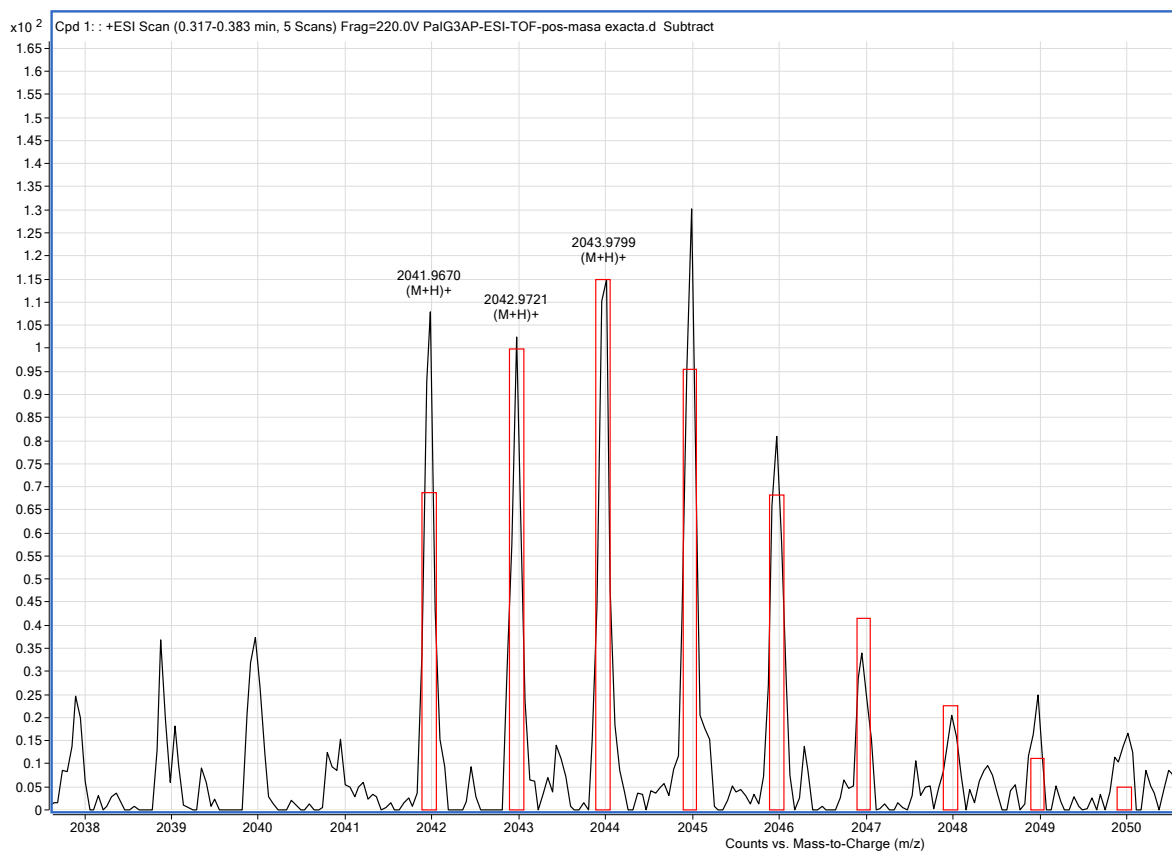


Figure S9. Molecular ion spectrum of dendron  $\text{PalG}_3(\text{S-CO}_2\text{H})_8$  (**3**).

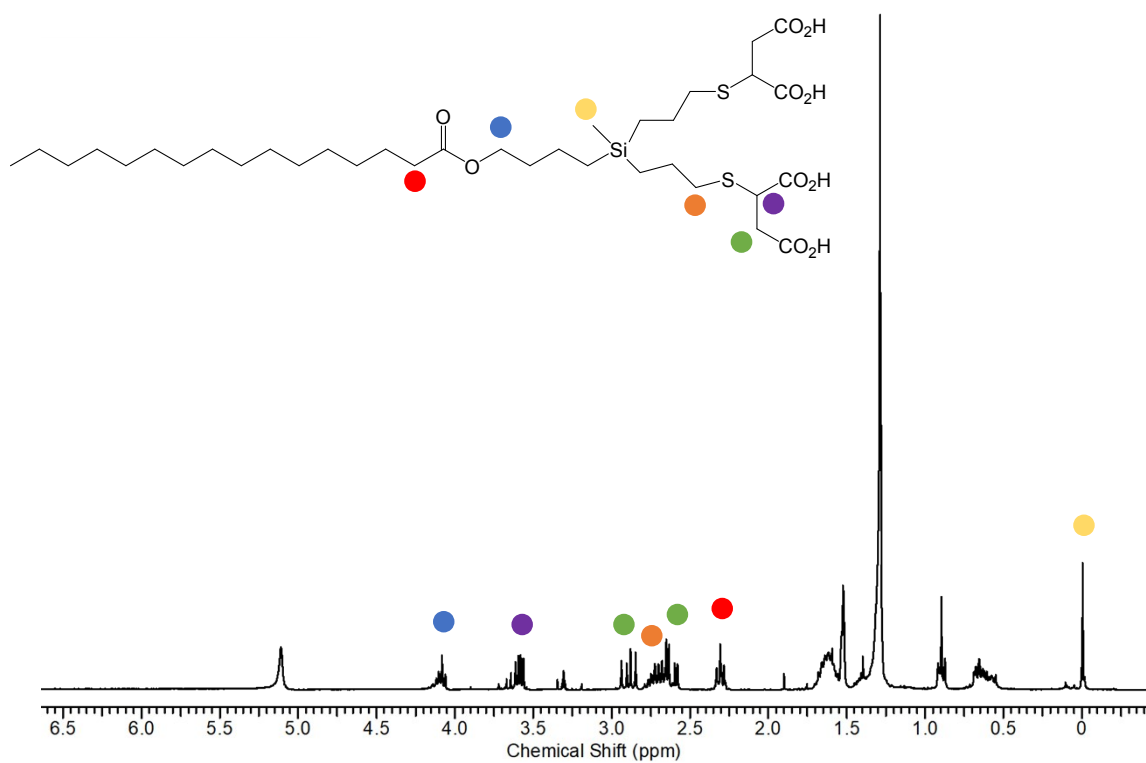
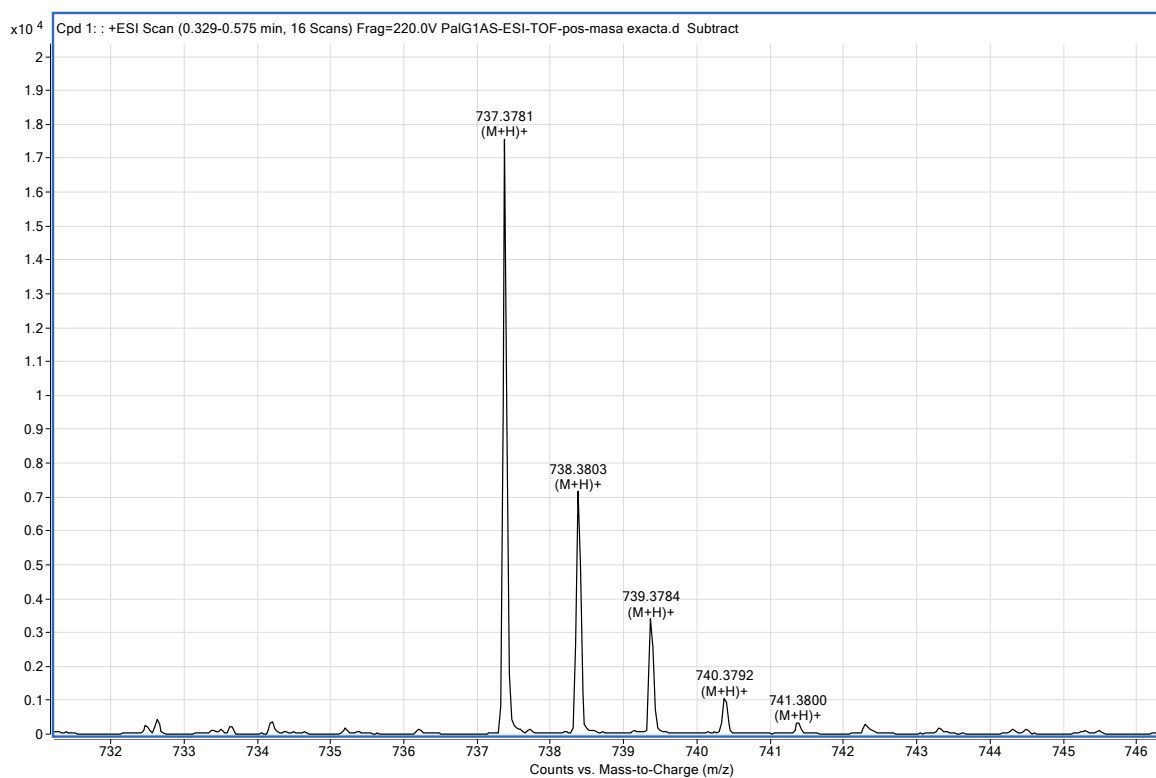
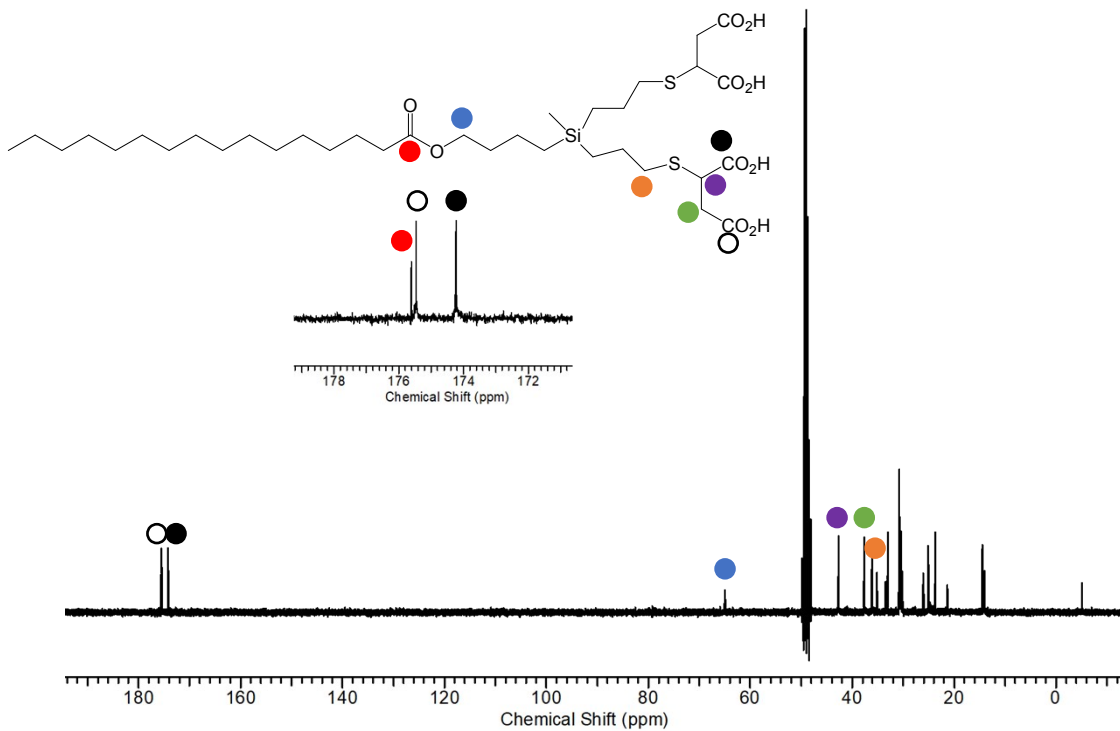


Figure S10.  $^1\text{H-NMR}$  spectrum of dendron  $\text{PalG}_1(\text{S}-(\text{CO}_2\text{H})_2)_2$  (**4**) in  $\text{CD}_3\text{OD}$ .





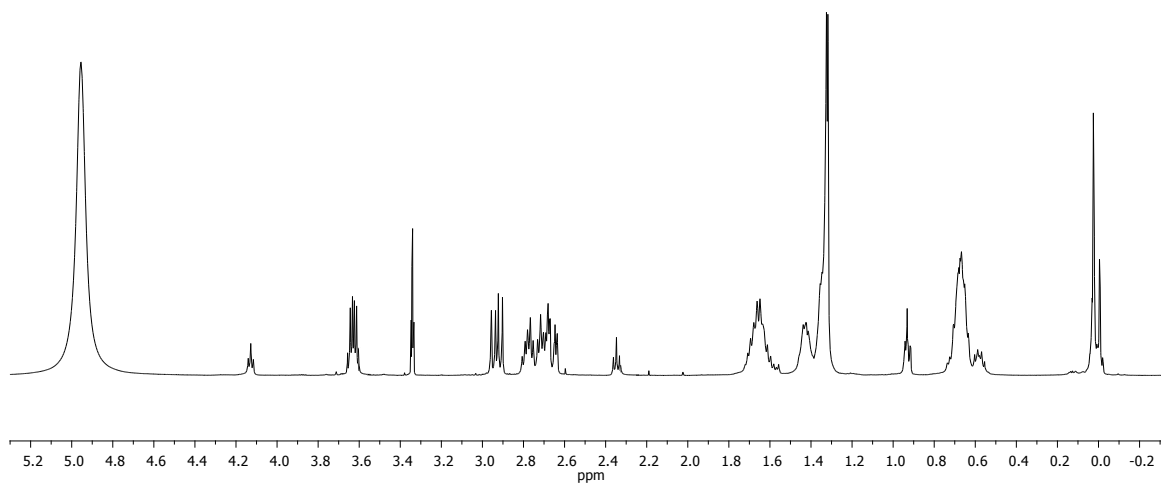


Figure S13. <sup>1</sup>H-NMR spectrum of dendron PaIG<sub>2</sub>(S-(CO<sub>2</sub>H)<sub>2</sub>)<sub>4</sub> (**5**) in CD<sub>3</sub>OD.

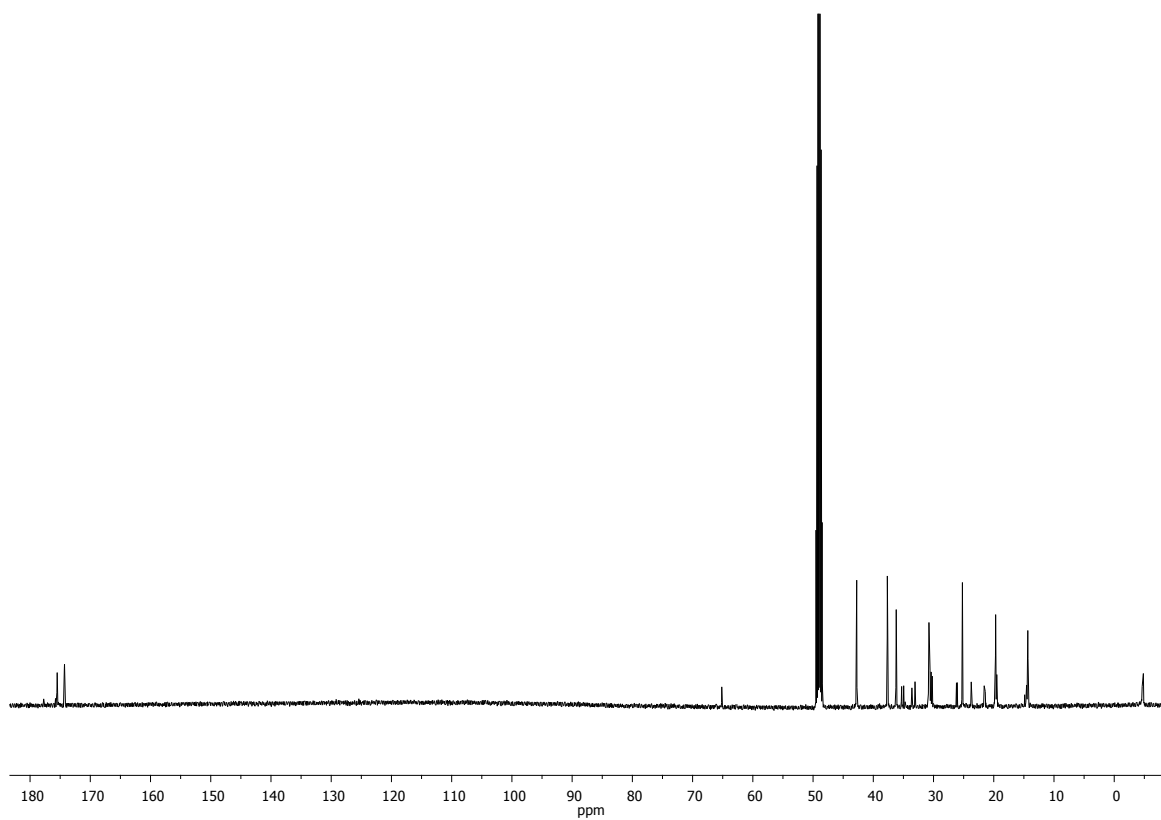


Figure S14. <sup>13</sup>C-NMR spectrum of dendron PaIG<sub>2</sub>(S-(CO<sub>2</sub>H)<sub>2</sub>)<sub>4</sub> (**5**) in CD<sub>3</sub>OD.

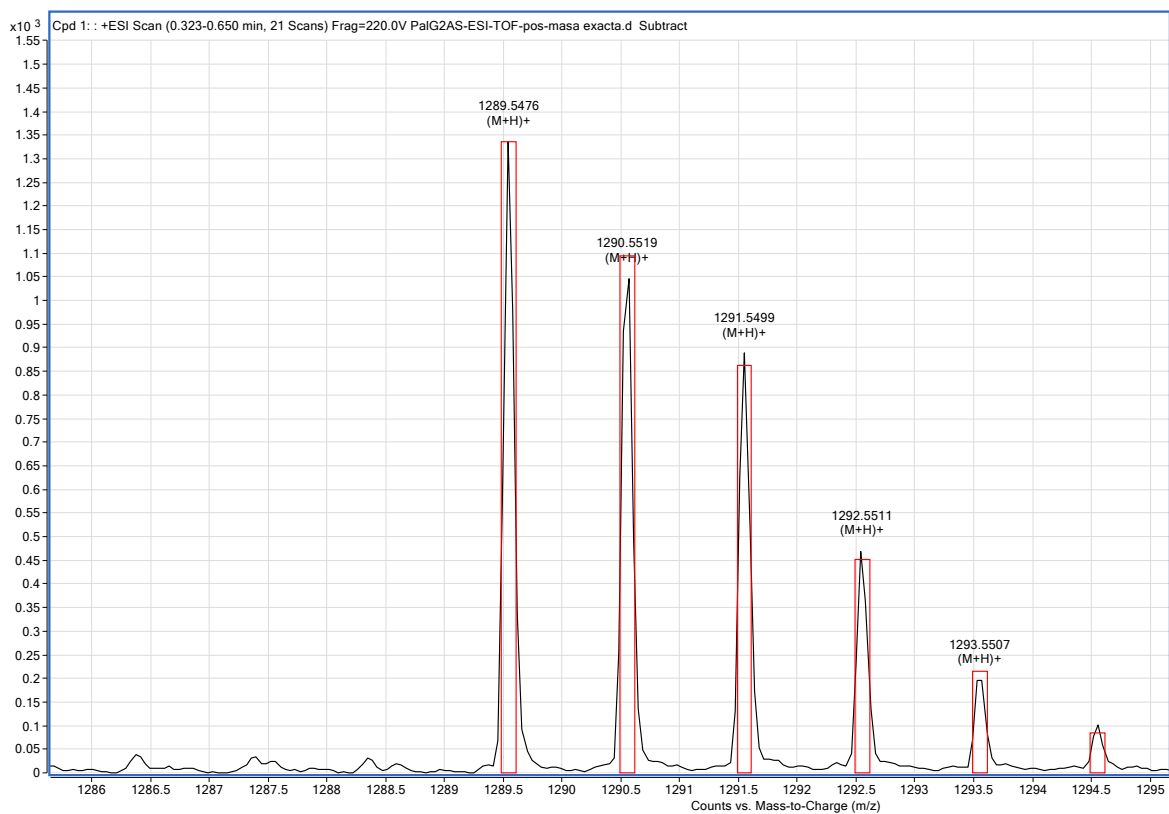


Figure S15. Molecular ion spectrum of dendron  $\text{PalG}_2(\text{S}-(\text{CO}_2\text{H})_2)_4$  (**5**)

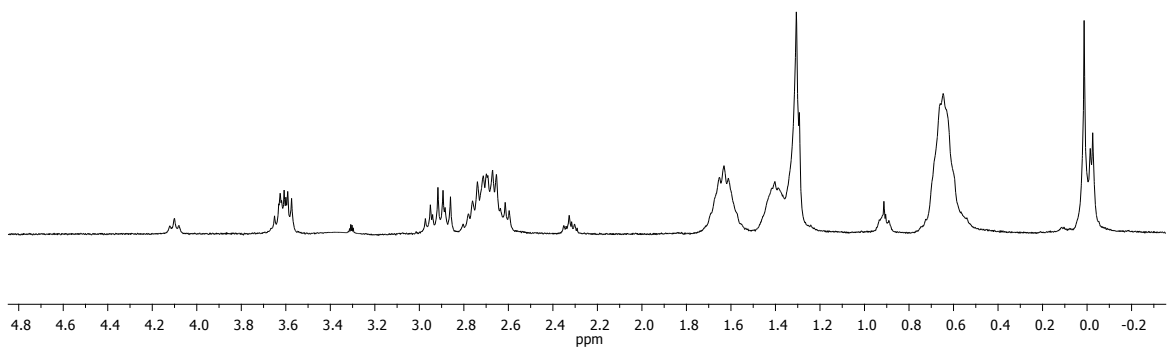


Figure S16.  $^1\text{H}$ -NMR spectrum of dendron  $\text{PalG}_3(\text{S}-(\text{CO}_2\text{H})_2)_8$  (**6**) in  $\text{CD}_3\text{OD}$ .

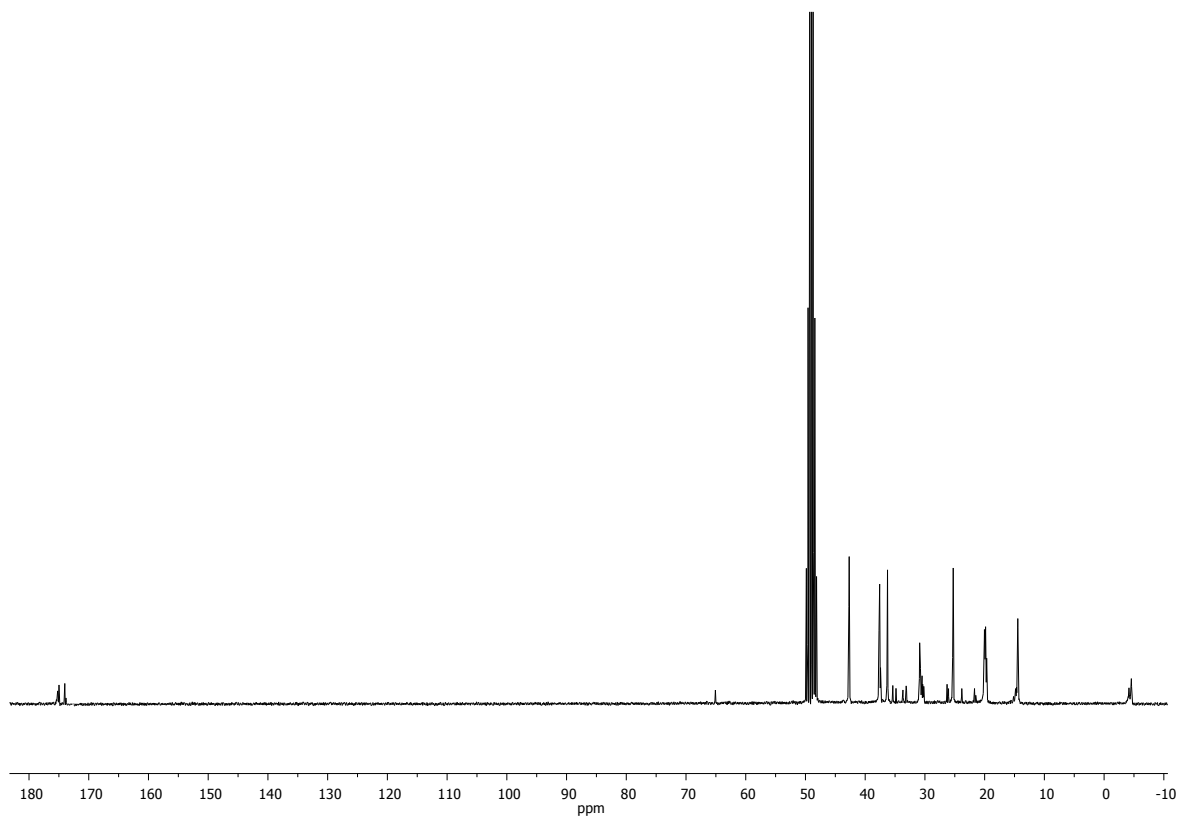


Figure S17.  $^{13}\text{C}$ -NMR spectrum of dendron  $\text{PalG}_3(\text{S}-(\text{CO}_2\text{H})_2)_8$  (**6**) in  $\text{CD}_3\text{OD}$ .

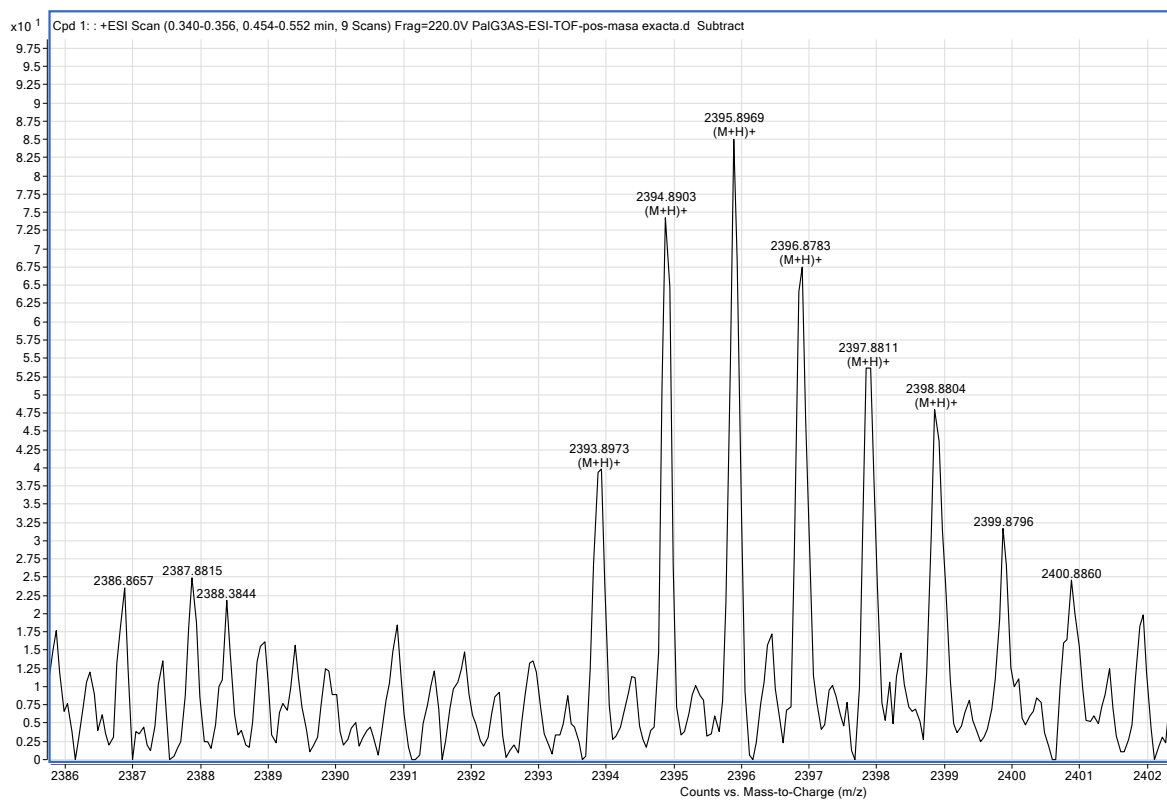


Figure S18. Molecular ion spectrum of dendron  $\text{PaIG}_3(\text{S}-(\text{CO}_2\text{H})_2)_8$  (**6**)

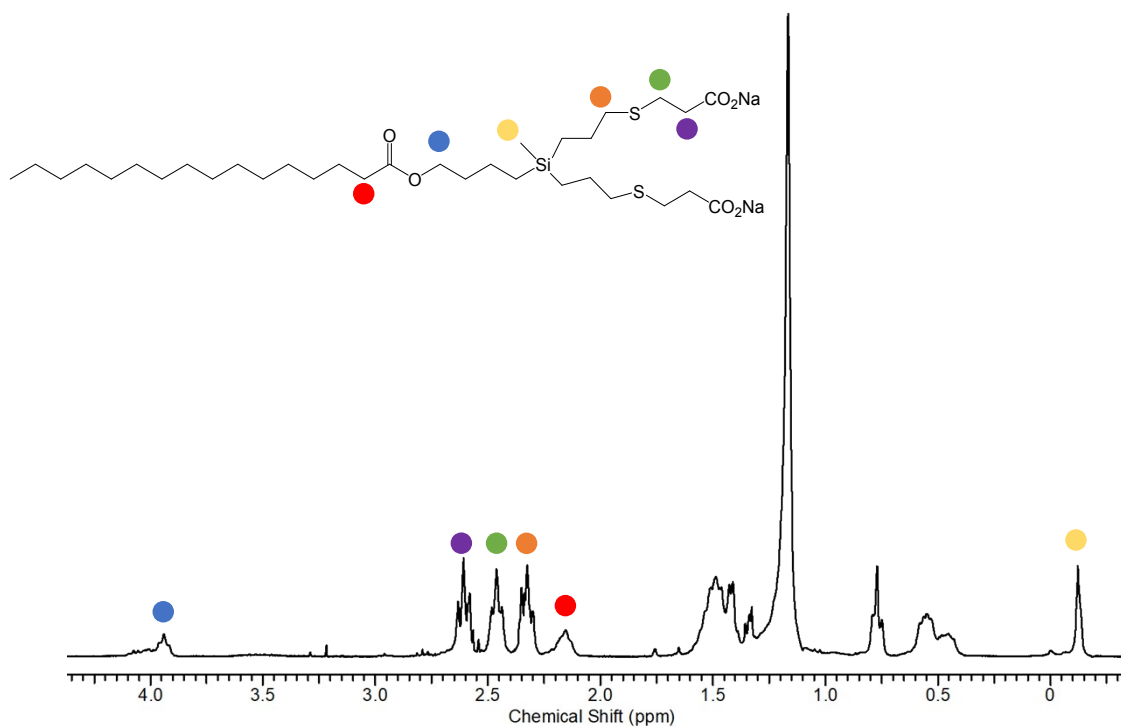


Figure S19.  $^1\text{H-NMR}$  spectrum of dendron  $\text{PaIG}_1(\text{S-CO}_2\text{Na})_2$  (**7**) in  $\text{D}_2\text{O}$ .

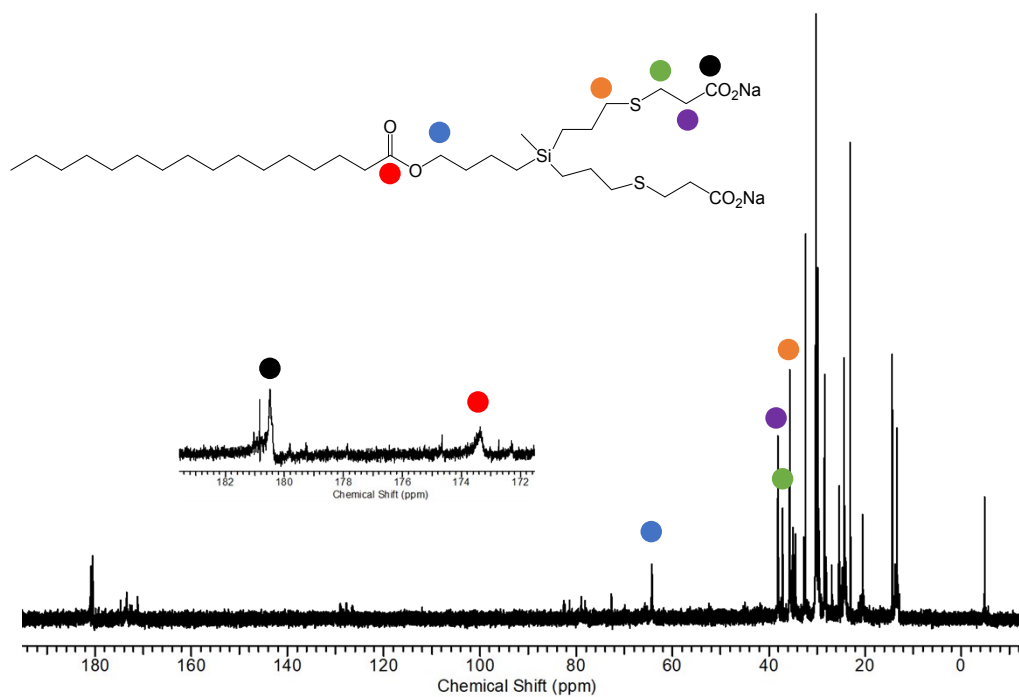


Figure S20.  $^{13}\text{C-NMR}$  spectrum of dendron  $\text{PaIG}_1(\text{S-CO}_2\text{Na})_2$  (**7**) in  $\text{D}_2\text{O}$ .

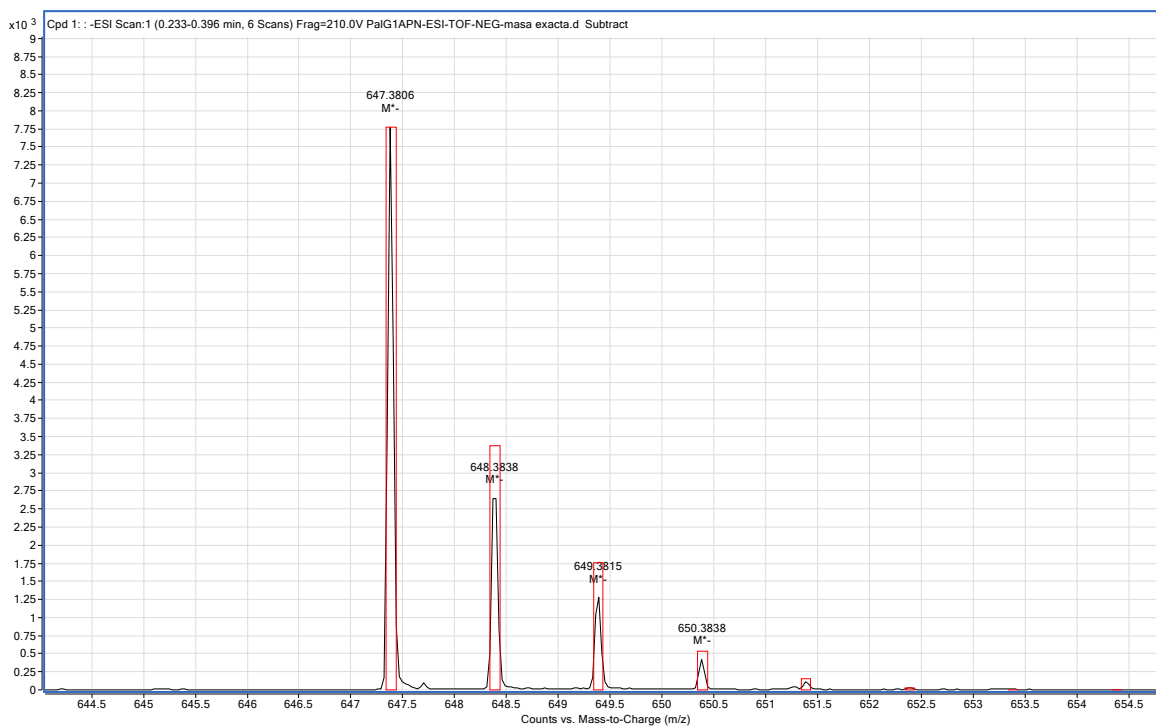


Figure S21. Molecular ion spectrum of dendron PaIG<sub>1</sub>(S-CO<sub>2</sub>Na)<sub>2</sub> (**7**).

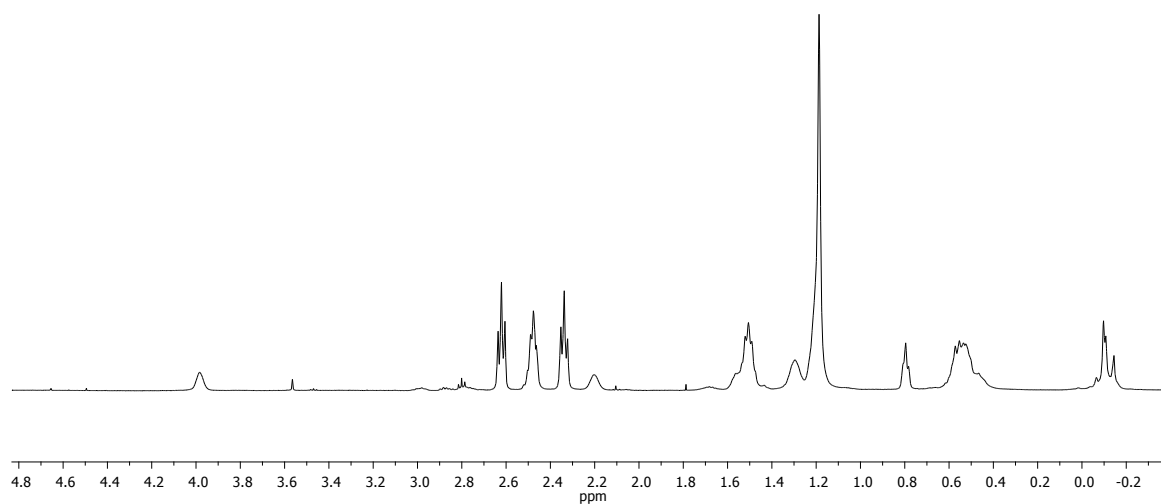


Figure S22. <sup>1</sup>H-NMR spectrum of dendron PaIG<sub>2</sub>(S-CO<sub>2</sub>Na)<sub>4</sub> (**8**) in D<sub>2</sub>O.

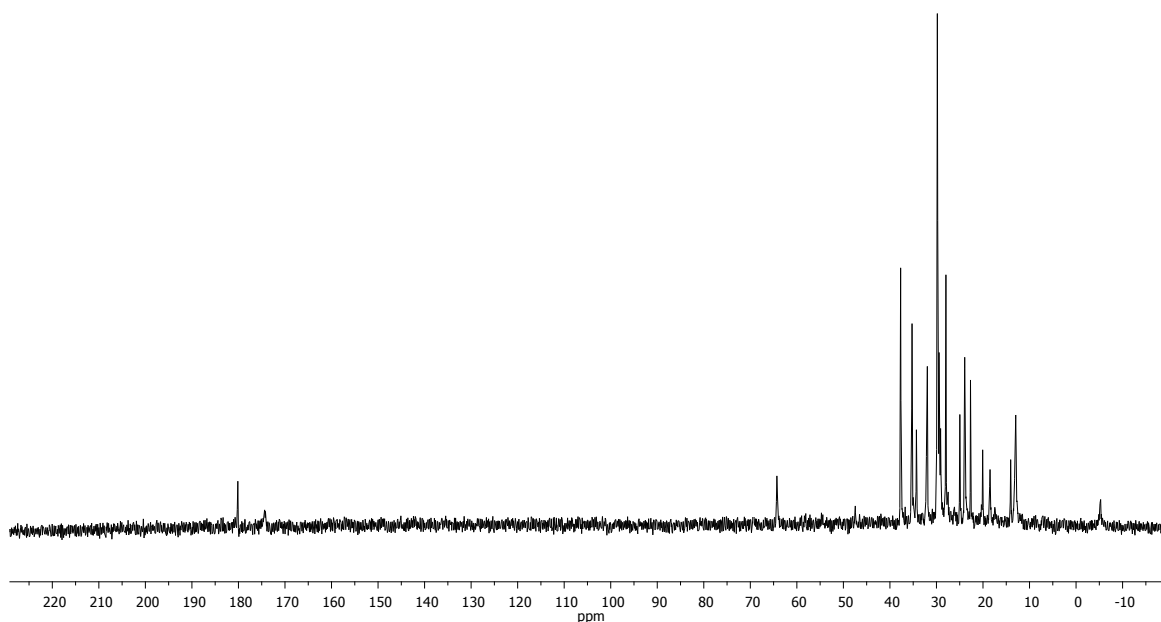


Figure S23. <sup>13</sup>C-NMR spectrum of dendron PaIG<sub>2</sub>(S-CO<sub>2</sub>Na)<sub>4</sub> (**8**) in D<sub>2</sub>O.

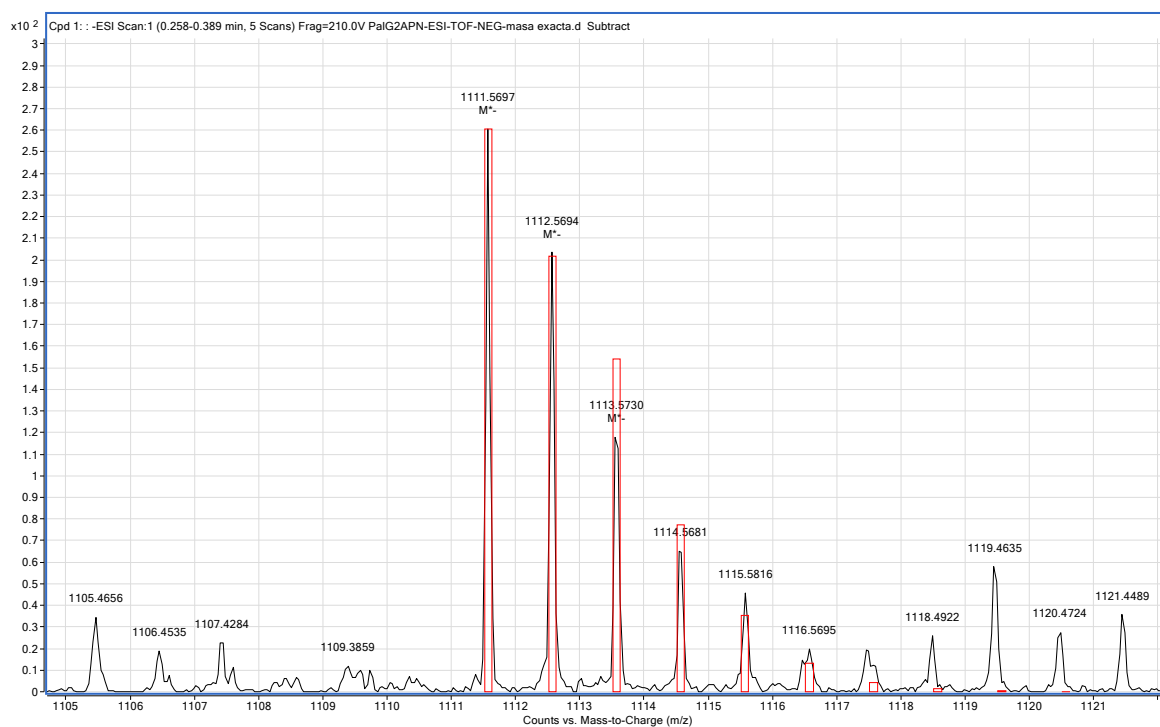


Figure S24. Molecular ion spectrum of dendron PaIG<sub>2</sub>(S-CO<sub>2</sub>Na)<sub>4</sub> (**8**).

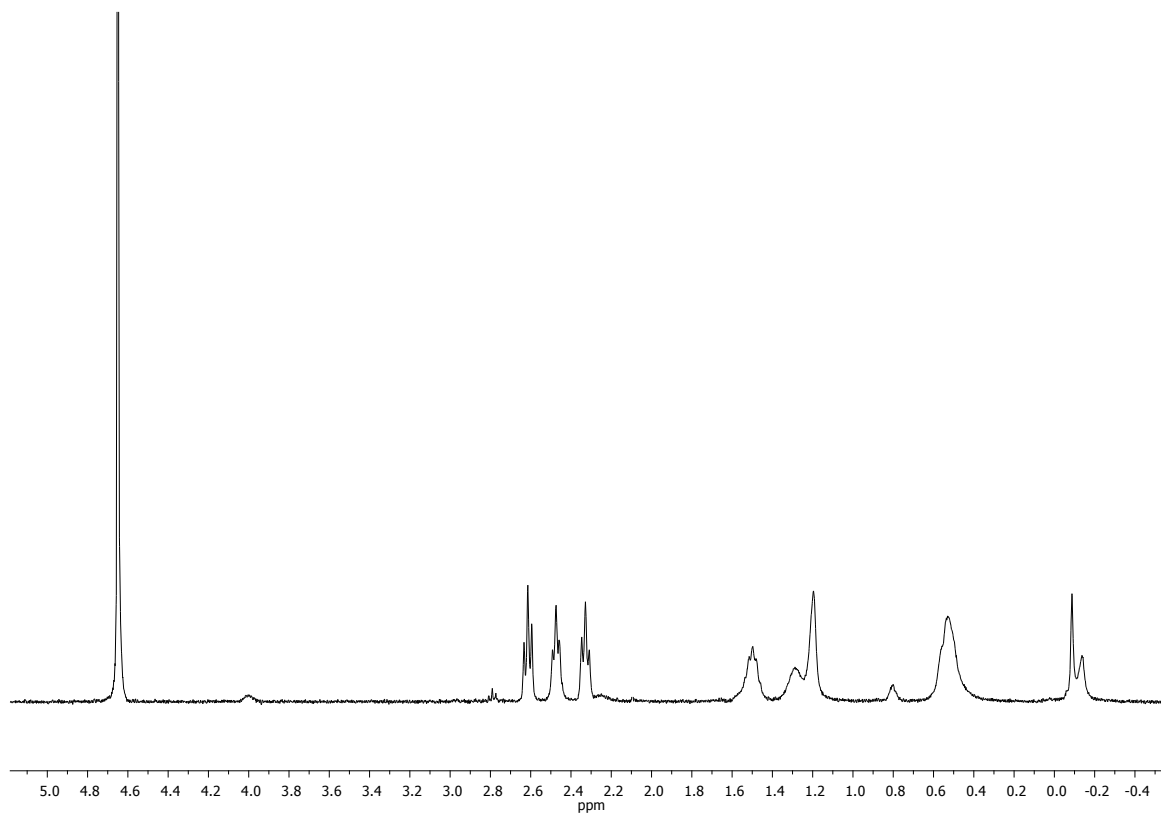


Figure S25. <sup>1</sup>H-NMR spectrum of dendron PaIG<sub>3</sub>(S-CO<sub>2</sub>Na)<sub>8</sub> (**8**) in D<sub>2</sub>O.

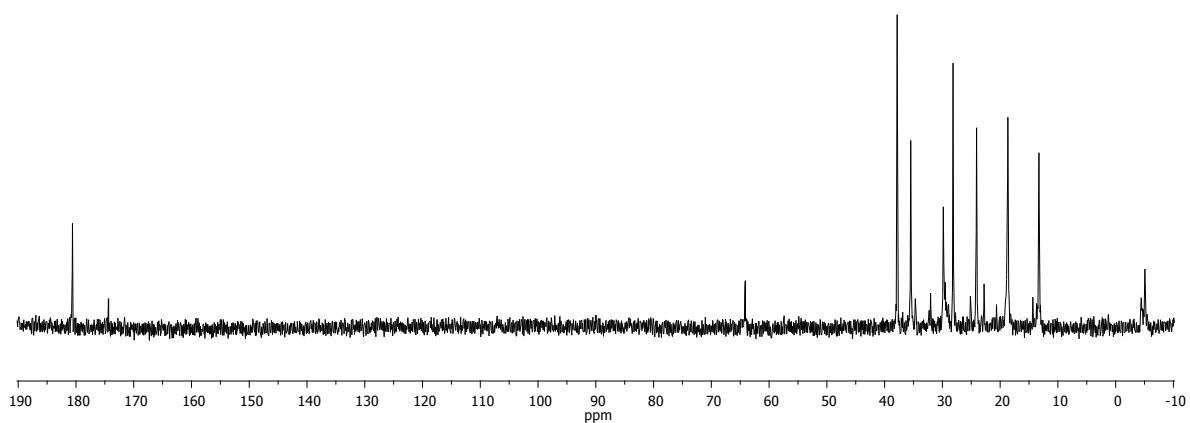


Figure S26. <sup>13</sup>C-NMR spectrum of dendron PaIG<sub>3</sub>(S-CO<sub>2</sub>Na)<sub>8</sub> (**8**) in D<sub>2</sub>O.



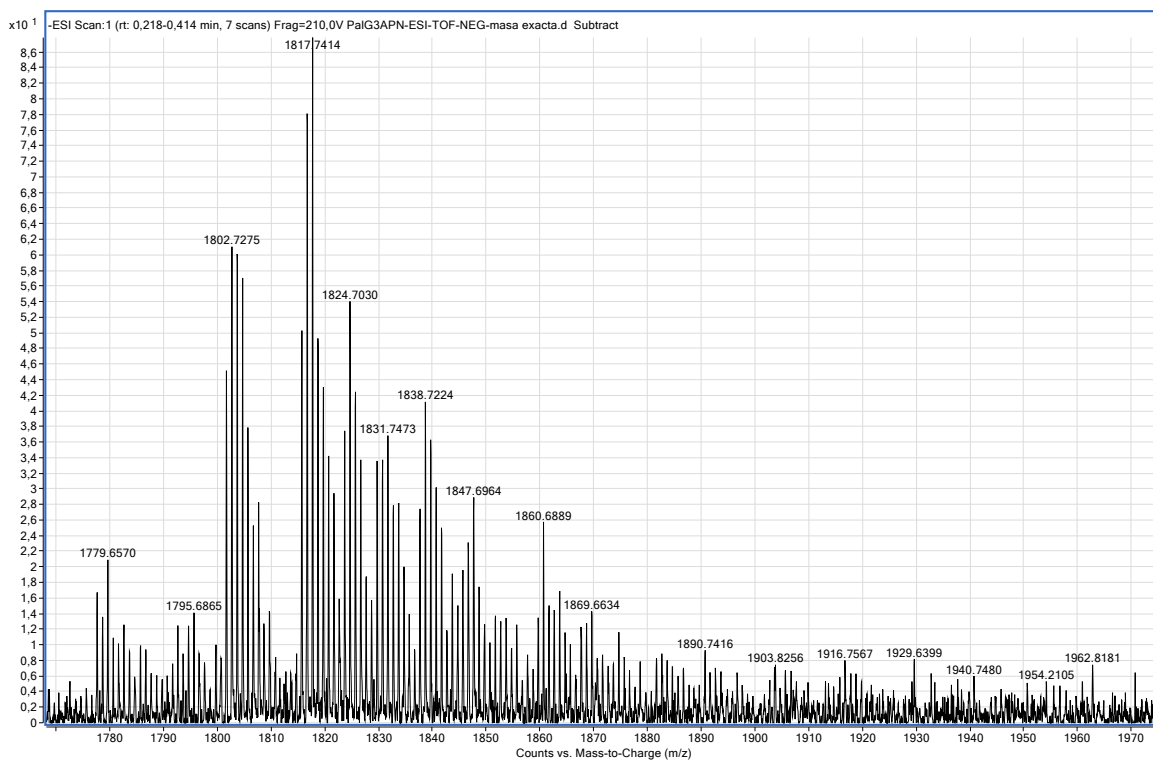


Figure S27. Molecular ion spectrum of dendron  $\text{PaIG}_3(\text{S-CO}_2\text{Na})_8$  (**8**).

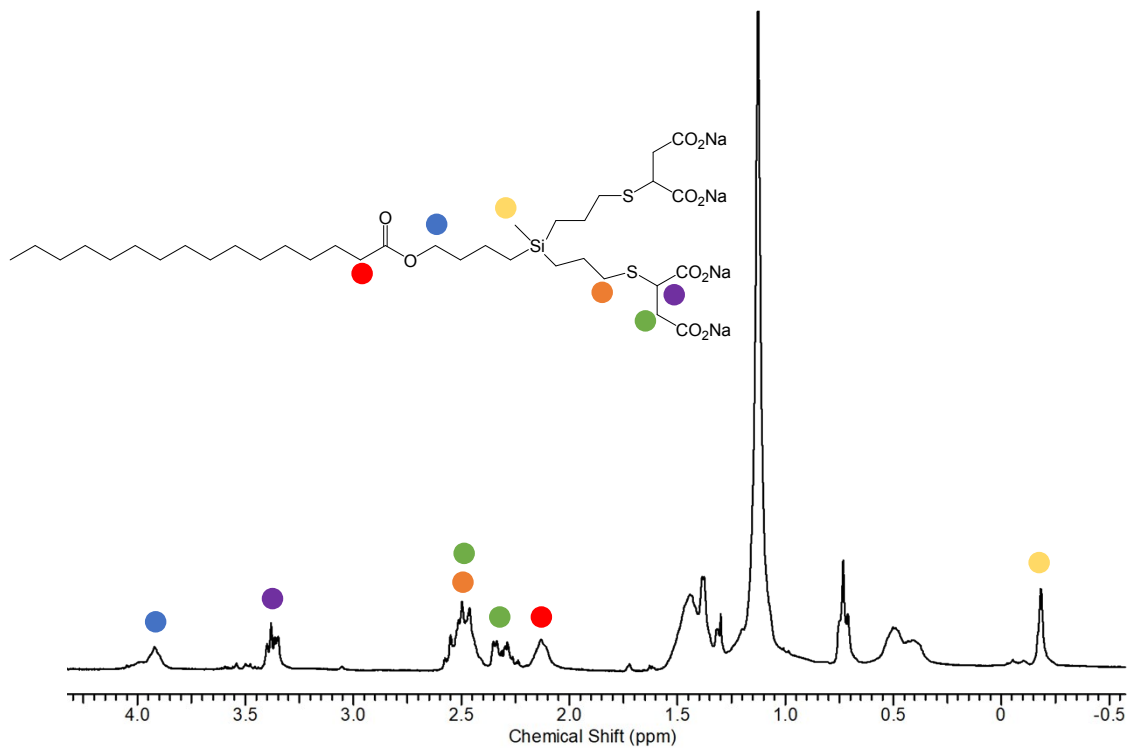


Figure S28.  $^1\text{H-NMR}$  spectrum of dendron  $\text{PaIG}_1(\text{S}-(\text{CO}_2\text{H})_2)_2$  (**10**) in  $\text{D}_2\text{O}$ .

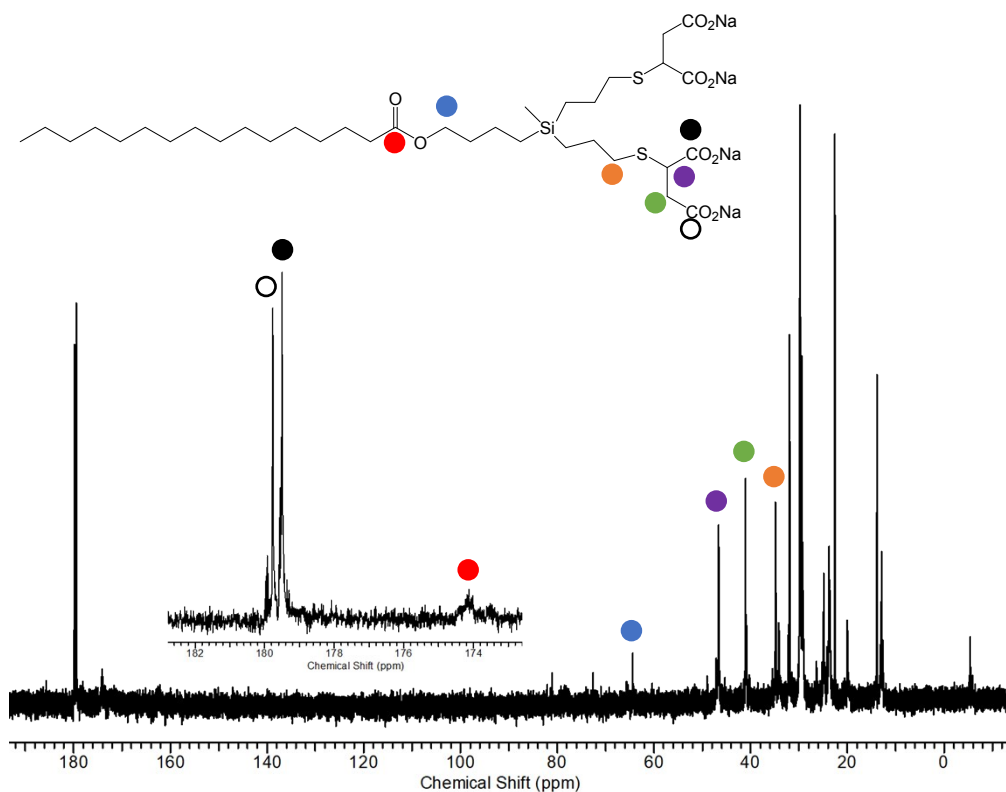


Figure S29.  $^{13}\text{C}$ -NMR spectrum of dendron  $\text{PalG}_1(\text{S}(\text{CO}_2\text{Na})_2)_2$  (**10**) in  $\text{D}_2\text{O}$ .

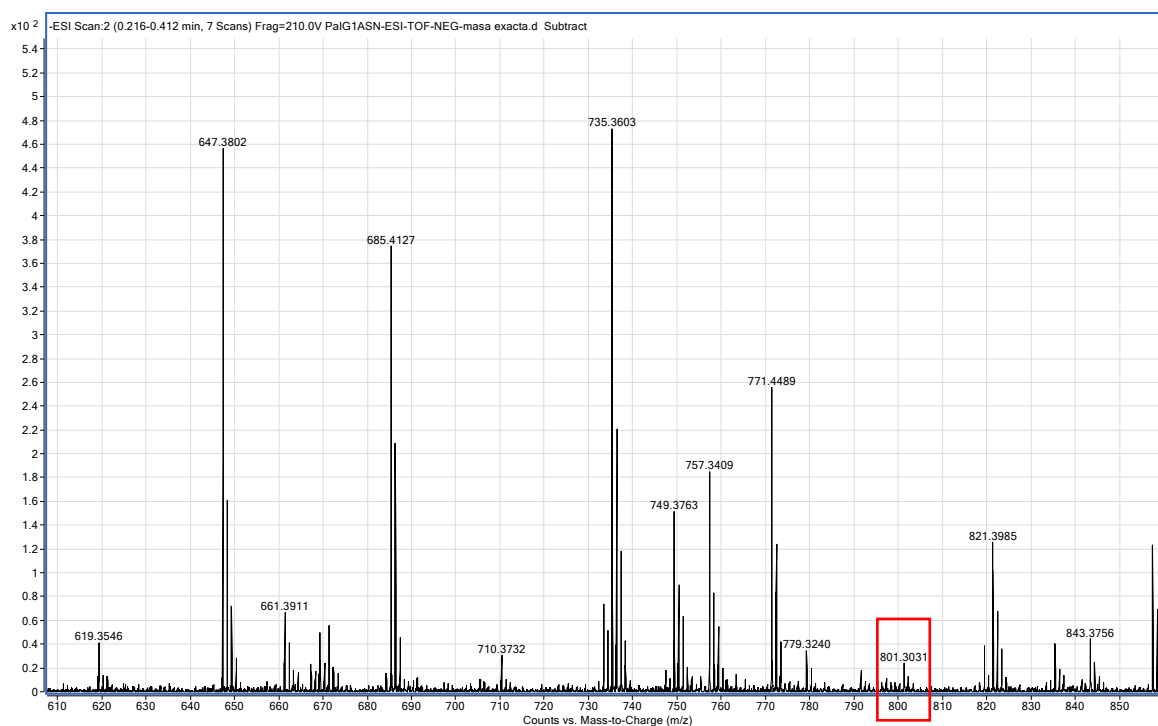


Figure S30. Mass spectrum of dendron  $\text{PalG}_1(\text{S}(\text{CO}_2\text{Na})_2)_2$  (**10**).

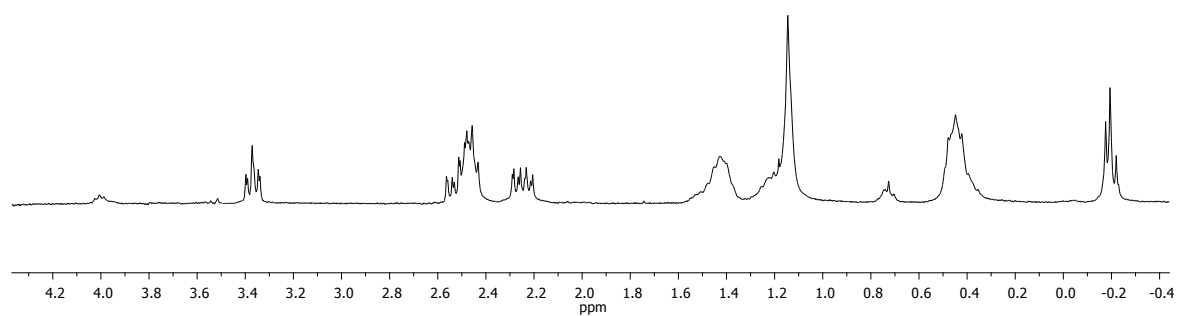


Figure S31. <sup>1</sup>H-NMR spectrum of dendron PaIG<sub>2</sub>(S-(CO<sub>2</sub>H)<sub>2</sub>)<sub>4</sub> (**11**) in D<sub>2</sub>O.

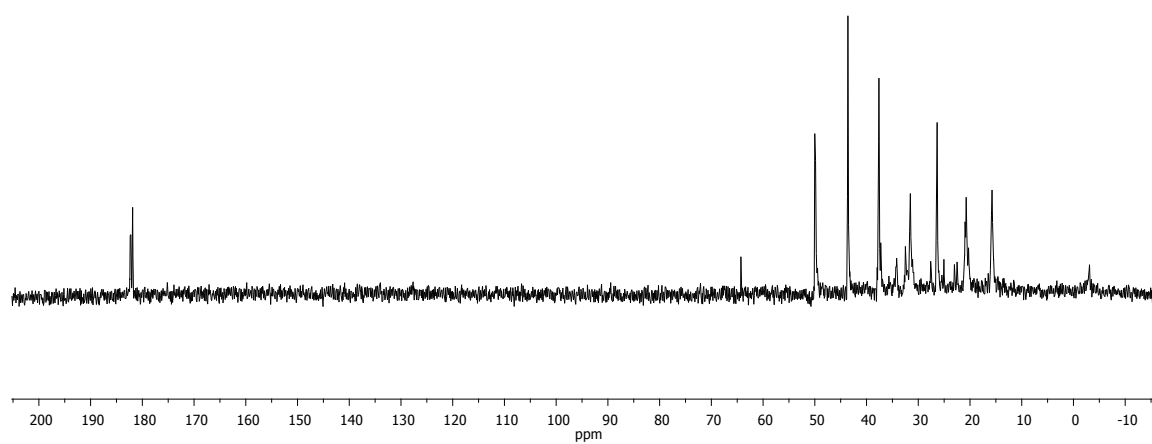


Figure S32. <sup>13</sup>C-NMR spectrum of dendron PaIG<sub>2</sub>(S-(CO<sub>2</sub>Na)<sub>2</sub>)<sub>4</sub> (**11**) in D<sub>2</sub>O.

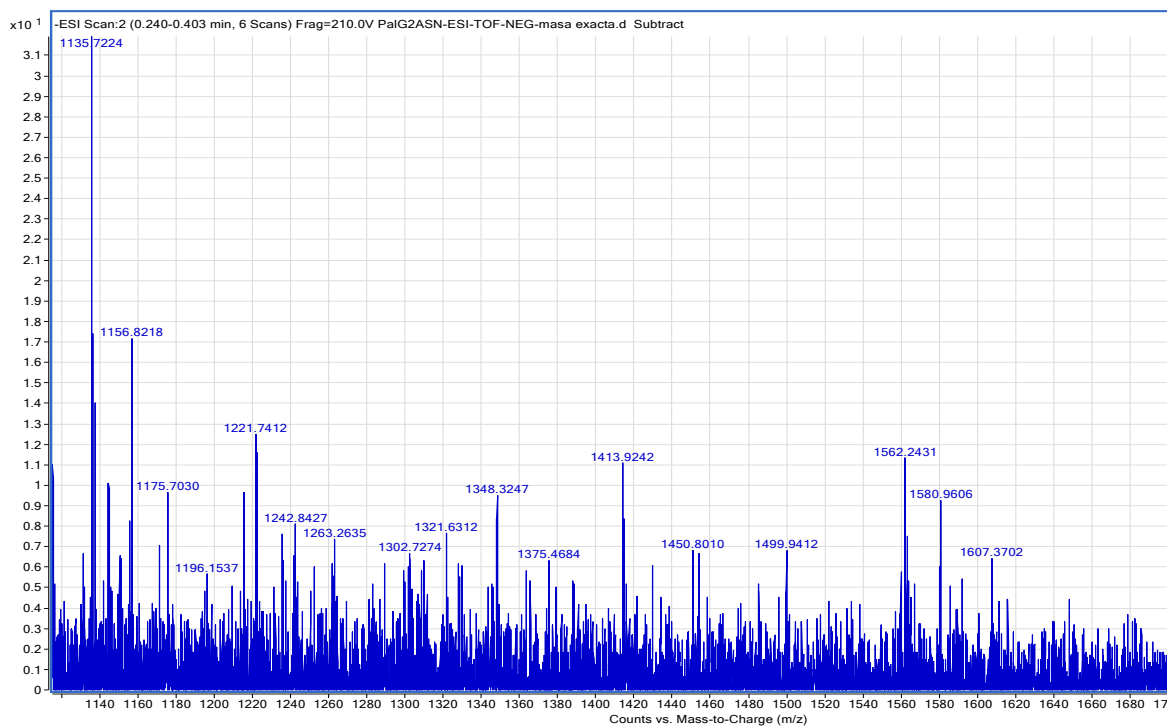


Figure S33. Mass spectrum of dendron  $\text{PaIG}_2(\text{S}-(\text{CO}_2\text{Na})_2)_4$  (**11**)



Figure S34.  $^1\text{H-NMR}$  spectrum of dendron  $\text{PaIG}_3(\text{S}-(\text{CO}_2\text{H})_2)_8$  (**12**) in  $\text{D}_2\text{O}$ .

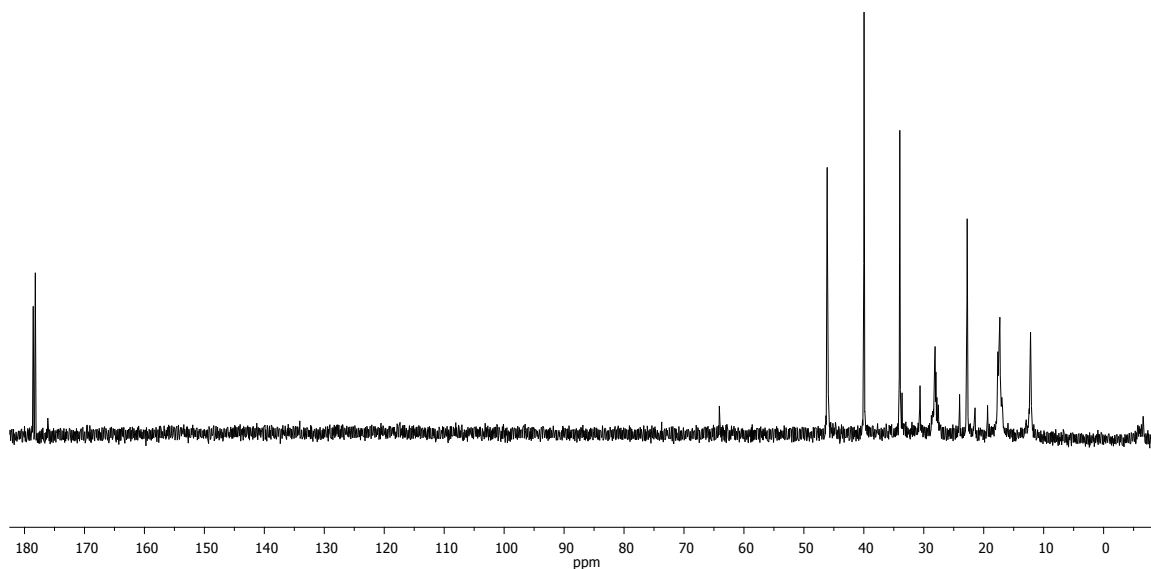


Figure S35.  $^{13}\text{C}$ -NMR spectrum of dendron  $\text{PaIG}_3(\text{S}-(\text{CO}_2\text{Na})_2)_8$  (**12**) in  $\text{D}_2\text{O}$ .

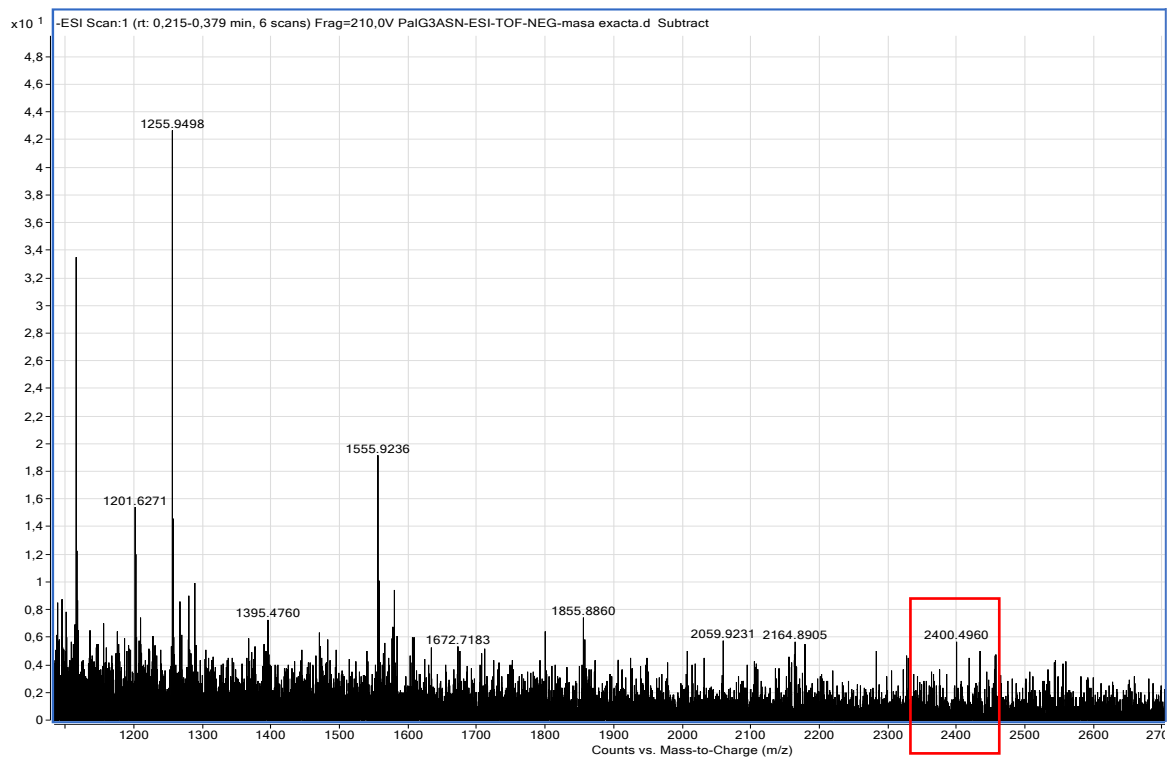


Figure S36. Mass spectrum of dendron  $\text{PaIG}_3(\text{S}-(\text{CO}_2\text{Na})_2)_8$  (**12**)

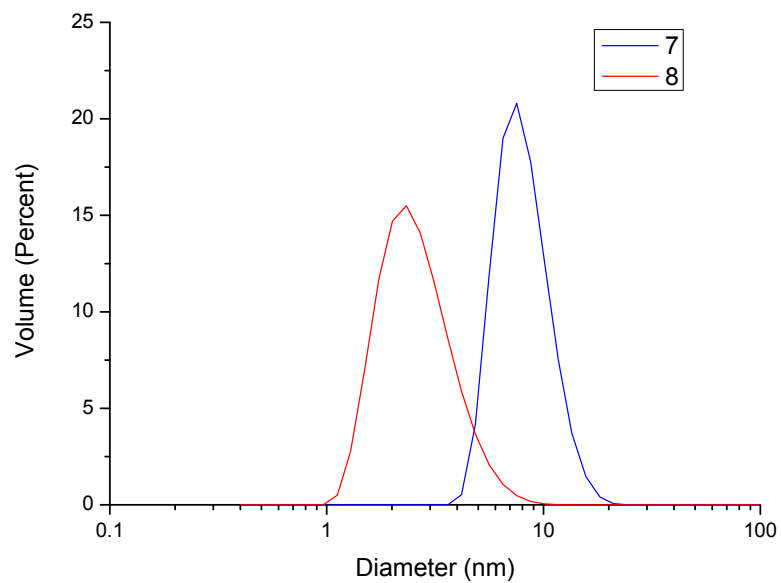


Figure S37. Size distribution of  $\text{PalG}_n(\text{S-CO}_2\text{Na})_m$  (**7-8**) measured by DLS.

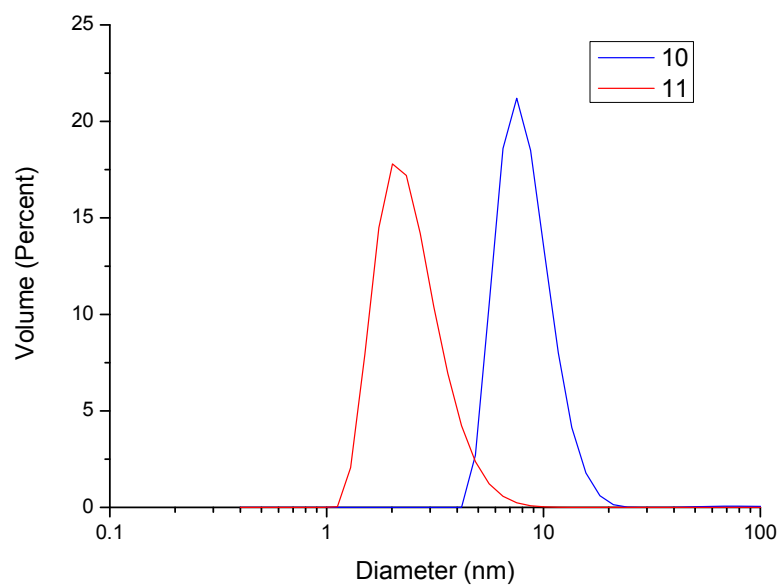


Figure S38. Size distribution of  $\text{PalG}_n(\text{S}-(\text{CO}_2\text{Na})_2)_m$  (**10-11**) measured by DLS.

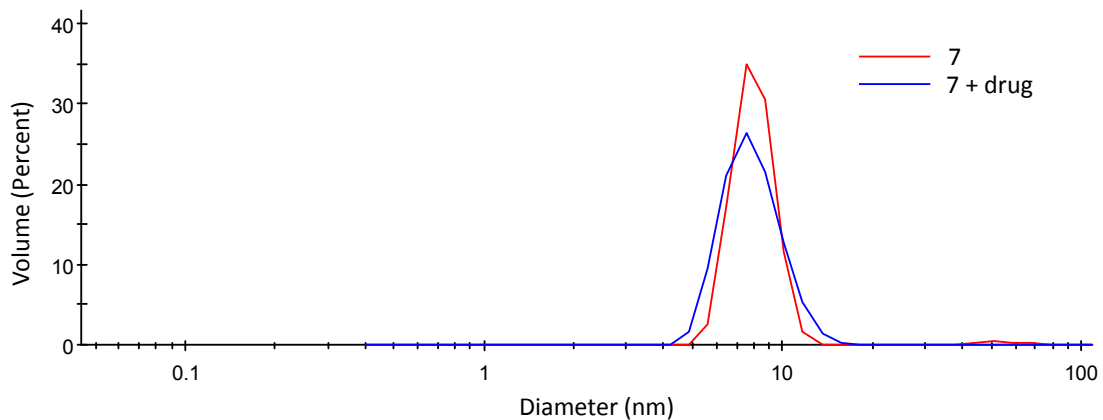


Figure S39. Size distribution of  $\text{PaIG}_1(\text{S-CO}_2\text{Na})_2$  (**7**) with and without ibuprofen sodium salt measured by DLS.

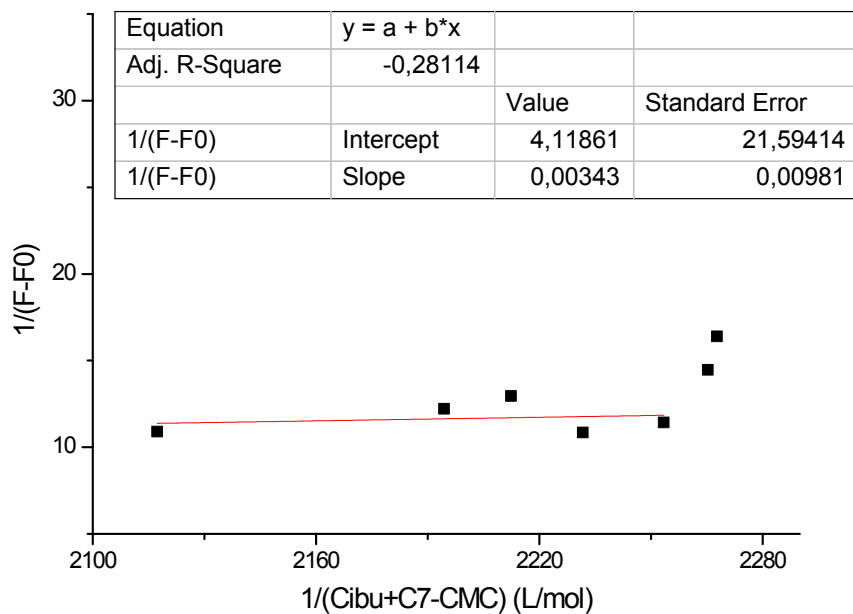


Figure S40.  $1/F-F_0$  vs  $1/([\text{Drug}] + [\text{Dendron}] - \text{CMC})$  graphic of ibuprofen sodium salt encapsulated by **7**.

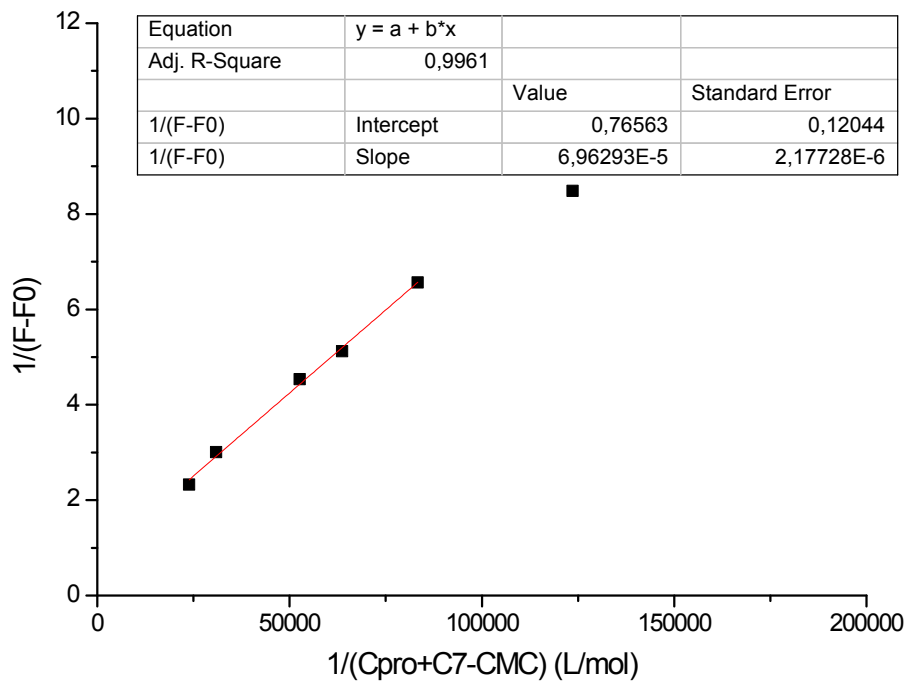


Figure S41.  $1/(F-F_0)$  vs  $1/([Drug]+[Dendron]-CMC)$  graphic of procaine hydrochloride encapsulated by **7**.

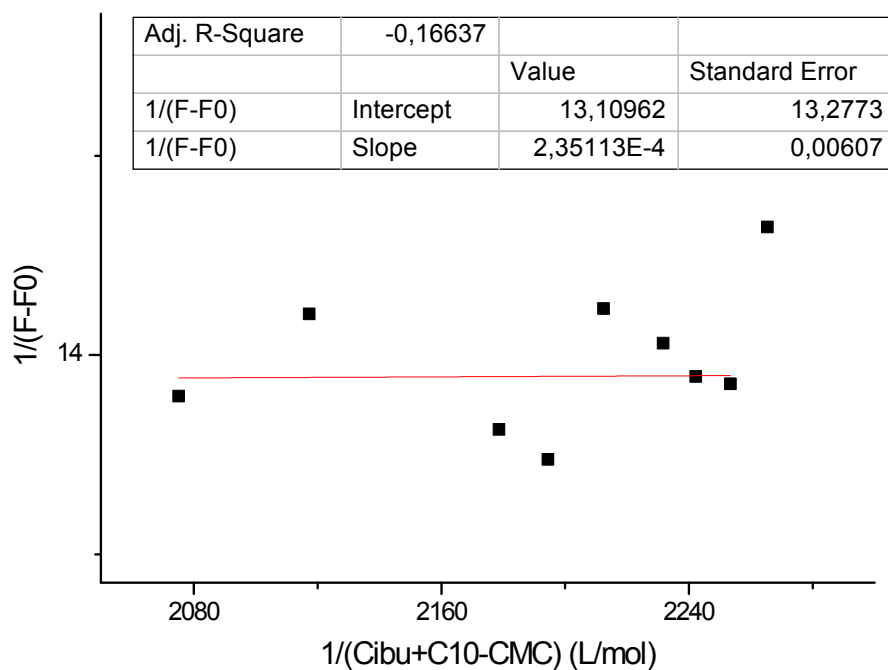


Figure S42.  $1/(F-F_0)$  vs  $1/([Drug]+[Dendron]-CMC)$  graphic of ibuprofen sodium salt encapsulated by **10**.



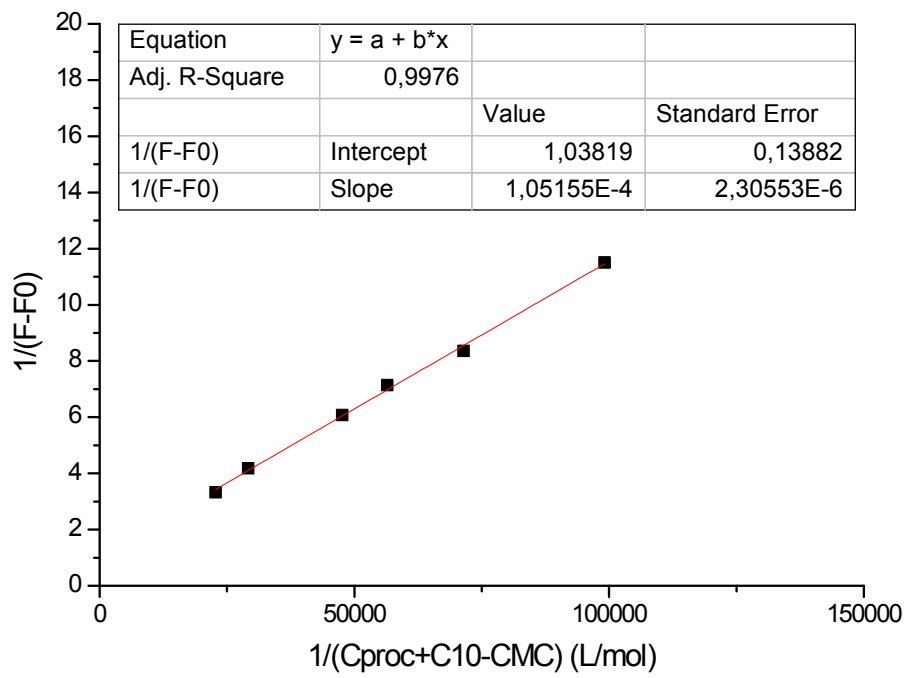


Figure S43.  $1/(F-F_0)$  vs  $1/([Drug]+[Dendron]-CMC)$  graphic of procaine hydrochloride encapsulated by **10**.