# Supporting Informations (SI) for

# Luminescent Dansyl-based Ionic Liquids from amino acids and methylcarbonate onium salt precursors: Synthesis and Photobehaviour

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*Trimethyloctylammonium methylcarbonate, [$N_{1118}$][$H_3COCO_2$]*

$^1$H NMR (400 MHz, 298 K, $CDCl_3$) δ: 3.45 (dd, J = 13.8, 5.7 Hz, 3H, [$H_3$C(CO)O]$^-$), 3.36 (s, 9H, -N(C$H_3$)$_3$), 1.72 (s, 2H, *H*-1 Octyl), 1.31 (dd, J = 20.5, 12.3 Hz, 10H, *H*-2 – *H*-7 Octyl), 0.88 (t, J = 6.7 Hz, 3H, -C$H_3$Octyl). Traces of the corresponding hydrogencarbonate anion (3.56 ppm). $^{13}$C NMR (101 MHz, 298 K, $CDCl_3$) δ: 170.36 ([HO(CO)O]$^-$, hydrogencarbonate anion traces), 158.29 ([$H_3$CO(CO)O]$^-$), 66.62 (C-1 Octyl), 52.88 ([$H_3$C(CO)O]$^-$), 49.73 (N($CH_3$)$_3$), 31.58 (C-3 Octyl), 29.10 (C-5 Octyl), 28.97 (C-4 Octyl), 26.19 (C-6 Octyl), 23.12 (C-7 Octyl), 22.49 (C-1 Octyl), 13.97 (C-8 Octyl).

*Phenylalanine methyl ester,* ***1a***

$^1$H NMR (400 MHz, 298 K, $CDCl_3$) δ: 7.34 – 7.28 (m, 2H, *H*-2 + *H*-6 Ph), 7.25 – 7.17 (m, 3H, H-*3* + H-*4* + H-*5*Ph), 3.76 (dd, $^3J$ = 7.8, $^2J$=5.2 Hz, 1H, *H*-2 Propyl), 3.72 (d, *J* = 3.3 Hz, 3H, -$CO_2CH_3$), 3.11 (dd, $^3J$ = 13.6 Hz, $^2J$ = 5.2 Hz, 1H, *H*-3 Propyl), 2.88 (dd, $^3J$ = 13.5 Hz, $^2J$ =7.9 Hz, 1H, *H*-3 Propyl), 1.81 (s, 2H, -N$H_2$).

*Tryptophan methyl ester,* ***2a***

$^1$H NMR (400 MHz, 298 K,DMSO-$d_6$) δ: 7.48 (dd, $^3J$ = 8.0 Hz, $^4J$ = 0.5 Hz, 1H, *H*-7 Ind), 7.33 (dt, $^3J$ = 8.1 Hz, $^4J$ = 0.9 Hz, 1H, *H*-4 Ind), 7.11 (d, *J* = 2.3 Hz, 1H, *H*-2 Ind), 7.05 (ddd, $^3J$ = 8.1 Hz, $^3J$ =7.1 Hz, $^4J$ = 1.1 Hz, 1H, *H*-5 Ind), 6.97 (ddd, $^3J$ = 8.0 Hz, $^3J$ = 7.0 Hz, $^4J$ = 1.0 Hz, 1H, *H*-6 Ind), 3.62 (t, *J* = 6.3 Hz, 1H, *H*-3 Propyl), 3.55 (s, 3H, -$CO_2CH_3$), 3.07 – 2.98 (m, 1H, *H*-2 Propyl), 2.97 – 2.89 (m, 1H, *H*-2 Propyl).

*Methyl (2-dansylamido-3-indolyl)propanoate,* ***1b***

***1b****:* $^1$H NMR (400 MHz, 333 K, $CDCl_3$) δ: 8.47 (d, *J* = 8.5 Hz, 1H, *H*-4 DNS), 8.25 – 8.10 (m, 2H, *H*-8 + *H*-2 DNS), 7.91 (s, 1H, -N*H*-Ind), 7.52 – 7.44 (m, 1H, *H*-3 DNS), 7.41 (dd, $^3J$ = 8.5 Hz, $^3J$ = 7.4 Hz, 1H, *H*-7 DNS), 7.35 (d, *J* = 8.0 Hz, 1H, *H*-6 DNS), 7.24 (s, 1H, *H*-4 Ind), 7.14 (m, 2H, *H*-6 + *H*-7 Ind), 7.05 – 6.97 (m, 1H, *H*-5 Ind), 6.86 (s, 1H, *H*-2 Ind), 5.35 (d, *J* = 8.7 Hz, 1H, -$SO_2$N*H*-), 4.24 (dd, $^3J$ = 5.8 Hz, $^2J$ = 2.9 Hz, 1H, *H*-2 Propyl), 3.28 (s, 3H, -$CO_2CH_3$), 3.15 (d, *J* = 5.6 Hz, 2H, *H*-3 Propyl), 2.87 (s, 6H, -N(C$H_3$)$_2$). $^{13}$C NMR (101 MHz, 323 K, $CDCl_3$) δ: 171.43 (-$CO_2CH_3$), 136.06 (C-5 DNS), 134.87 (C-1 DNS), 134.60 (C-9 Ind), 130.46 (C-9 DNS), 129.82 (C-4 DNS), 129.64 (C-7 DNS), 129.45 (C-8 Ind), 129.02 (C-3 DNS), 128.20 (C-2 DNS), 128.18 (C-8 DNS), 127.19 (C-2 Ind), 123.25 (C-5 Ind), 123.00 (C-10 DNS), 122.15 (C-7 DNS), 119.59 (C-7 Ind), 118.35 (C-6 Ind), 115.17(C-6 DNS), 111.01 (C-4 Ind), 109.09 (C-1 Ind), 56.46 (C-2 Propyl), 52.13 (-$CO_2CH_3$), 45.37 (-N($CH_3$)$_2$), 29.19 (C-3 Propyl).

*Methyl (2-dansylamido-3-phenyl)propanoate,* ***2b***

***2b****:*$^1$H NMR (400 MHz, 333 K, $CDCl_3$) δ: 8.55 (d, *J* = 8.6 Hz, 1H, *H*-8 DNS), 8.26 (d, *J* = 8.7 Hz, 1H, *H*-2 DNS), 8.18 (d, *J* = 7.2 Hz, 1H, *H*-3 DNS), 7.56 – 7.43 (m, 2H, *H*-3 + *H*-4 DNS), 7.20 (d, *J* = 7.6 Hz, 1H, *H*-6 DNS), 7.13 – 7.06 (m, 3H, *H*-3 Ph + *H*-5 Ph + *H*-7 DNS), 6.94 (dd, $^3J$ = 6.4 Hz, $^4J$ = 2.9 Hz, 2H, *H*-2 + *H*-6 Ph), 5.23 (d, *J* = 9.0 Hz, 1H, -$SO_2$NH-), 4.26 – 4.17 (m, 1H, *H*-2 Propyl), 3.38 (d, *J* = 2.0 Hz, 3H, -$CO_2CH_3$), 2.94 (d, *J* = 6.2 Hz, 2H, *H*-3 Propyl), 2.90 (s, 6H, -N(C$H_3$)$_2$). $^{13}$C NMR (101 MHz, 323 K, $CDCl_3$) δ: 171.23 (-$CO_2CH_3$), 151.75 (C-5 DNS), 135.15 (C-1 DNS), 135.06 (C-1 Ph), 130.74 (C-9 DNS), 130.05 (C-4 DNS), 129.87 (C-7 DNS), 129.66 (C-3 DNS), 129.36 (C-3 + C-5 Ph), 128.50 (C-2 + C-4 Ph),

128.45 (C-10 DNS), 127.23 (C-6 Ph), 123.29 (C-8 DNS), 119.52 (C-2 DNS), 115.56 (C-5 DNS), 57.24 (C-2 Propyl), 52.26 (-$CO_2\underline{C}H_3$), 45.61 (-$N(CH_3)_2$), 39.45 (C-3 Propyl).

*Ethyl (2-dansylamido-3-oxo)amidoetanoate,* ***3b***

***3b****:* $^1$H NMR (400 MHz, 298 K,$CDCl_3$) δ: 8.55 (d, *J* = 8.5 Hz, 1H, *H*-4 DNS), 8.33 – 8.15 (m, 2H, *H*-8 + *H*-2 DNS), 7.65 – 7.42 (m, 2H, *H*-7 + *H*-6 DNS), 7.18 (dd, $^3J$ = 10.4 Hz, $^3J$ = 6.5 Hz, 1H, *H*-3 DNS), 6.29 (t, *J* = 6.2 Hz, 1H, -$SO_2$N*H*-), 4.15 (qd, $^3J$ = 7.1 Hz, $^2J$ = 1.5 Hz, 2H, -$CO_2CH_2CH_3$), 3.96 (d, *J* = 5.7 Hz, 2H, -($SO_2$NH)$CH_2$(CONH)-), 3.57 (d, *J* = 6.4 Hz, 2H, -(NH)$CH_2CO_2CH_2CH_3$), 2.87 (d, *J* = 1.6 Hz, 6H, -$N(CH_3)_2$), 0.91 – 0.78 (m, 3H, -$CO_2CH_2CH_3$).

*Triethylammonium (2-dansylamido-3-indolyl)propanoate,* ***1'c***

$^1$H NMR (400 MHz, 298 K, $CDCl_3$) δ: 8.41 (d, *J* = 8.5 Hz, 1H, *H*-4 DNS), 8.30 (d, *J* = 8.7 Hz, 1H, *H*-8 DNS), 8.16 (dd, $^3J$ = 7.3 Hz,$^2J$ = 1.2 Hz, 1H, *H*-2 DNS), 7.90 (s, 1H, N*H*-Ind), 7.56 (d, *J* = 7.9 Hz, 1H, *H*-6 DNS), 7.40 (ddd, $^3J$ = 25.3 Hz, $^3J$ = 8.5 Hz, $^3J$ = 7.5 Hz, 2H, *H*-3 + *H*-7 DNS), 7.19 (d, *J* = 8.0 Hz, 1H, *H*-4 Ind), 7.10 (d, *J* = 7.6 Hz, 1H, *H*-7 Ind), 7.08 – 7.01 (m, 1H, *H*-6 Ind), 6.99 – 6.92 (m, 1H, *H*-5 + *H*-2 Ind), 6.07 (s, 1H, -$SO_2$N*H*-), 4.00 (s, 1H, *H*-2 Propyl), 3.20 (qd, $^4J$ = 14.6 Hz, $^3J$ = 4.9 Hz, 2H, *H*-3 Propyl), 2.85 (s, 6H, -$N(CH_3)_2$), 2.69 (dt, J = $^3J$ = 7.5 Hz, $^3J$ = 6.3 Hz, 9H, $[NH(CH_2CH_3)_3]^+$), 0.94 (t, *J* = 7.3 Hz, 12H, $[NH(CH_2CH_3)_3]^+$).

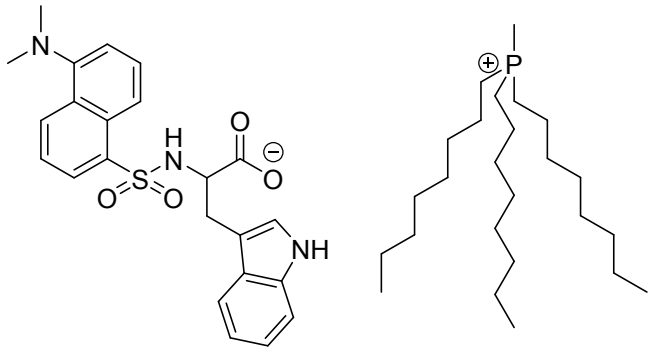
*Triethylammonium(2-dansylamido-3-phenyl)propanoate,* ***2'c***

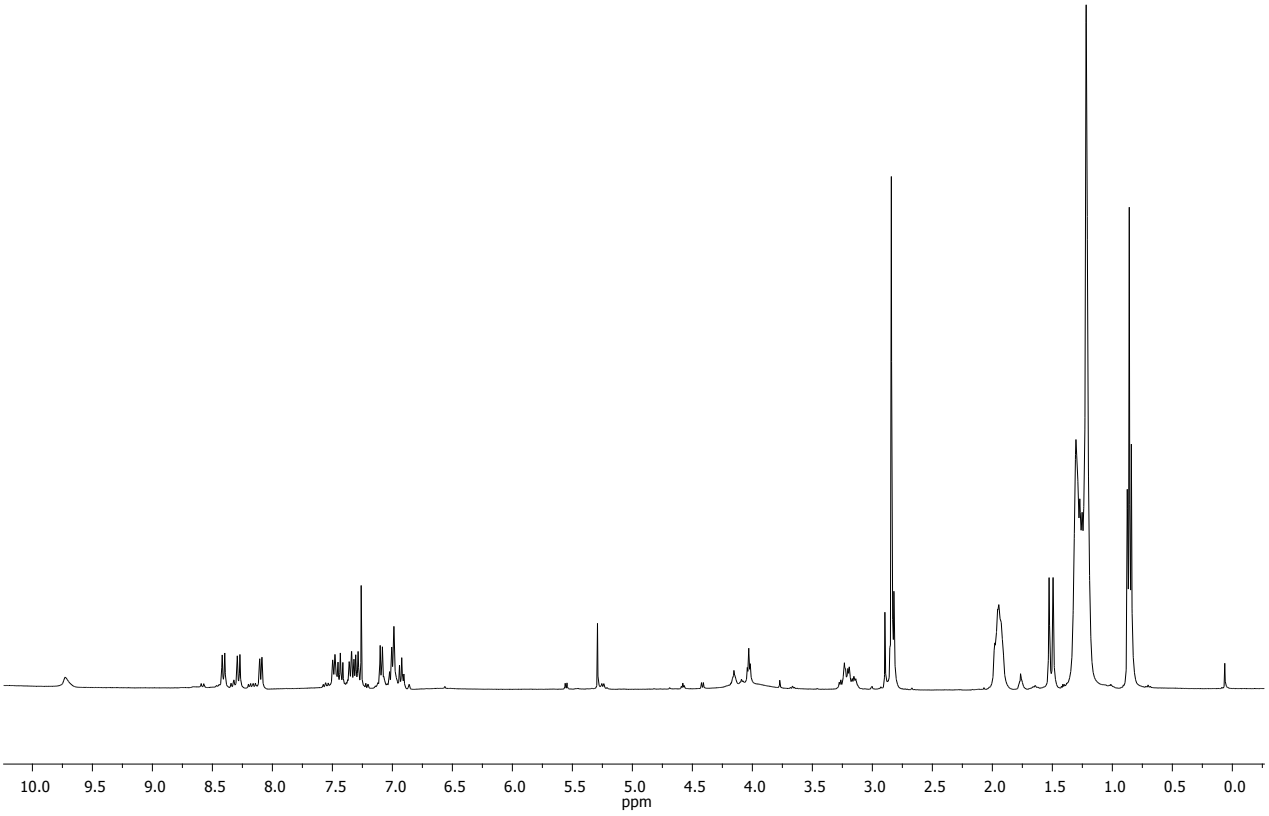
$^1$H NMR (400 MHz, 298 K, $CDCl_3$) δ: 8.44 (d, *J* = 8.0 Hz, 1H, *H*-4 DNS), 8.22 (d, *J* = 8.3 Hz, 1H, *H*-8 DNS), 8.13 (d, *J* = 7.3 Hz, 1H, *H*-2 DNS), 7.43 (dt, $^3J$ = 13.8 Hz, $^3J$ = 8.0 Hz, 2H, *H*-3 + *H*-7 DNS), 7.11 (d, *J* = 7.6 Hz, 1H, *H*-6 DNS), 6.96 (d, *J* = 17.1 Hz, 5H, Ph), 5.81 (s, 1H, -N*H*$SO_2$-), 3.99 (d, *J* = 4.8 Hz, 1H, *H*-2 Propyl), 2.98 (dd, $^4J$ = 13.7 Hz, $^3J$ = 5.0 Hz, 2H, *H*-3 Propyl), 2.90 (s, 6H, -$N(CH_3)_2$), 2.87 – 2.79 (m, 6H, $[NH(CH_2CH_3)_3]^+$), 1.14 (t, *J* = 7.3 Hz, 9H, $[NH(CH_2CH_3)_3]^+$).

*3-Dansylamido-2-ossoaminoetanoic acid,* ***3c***

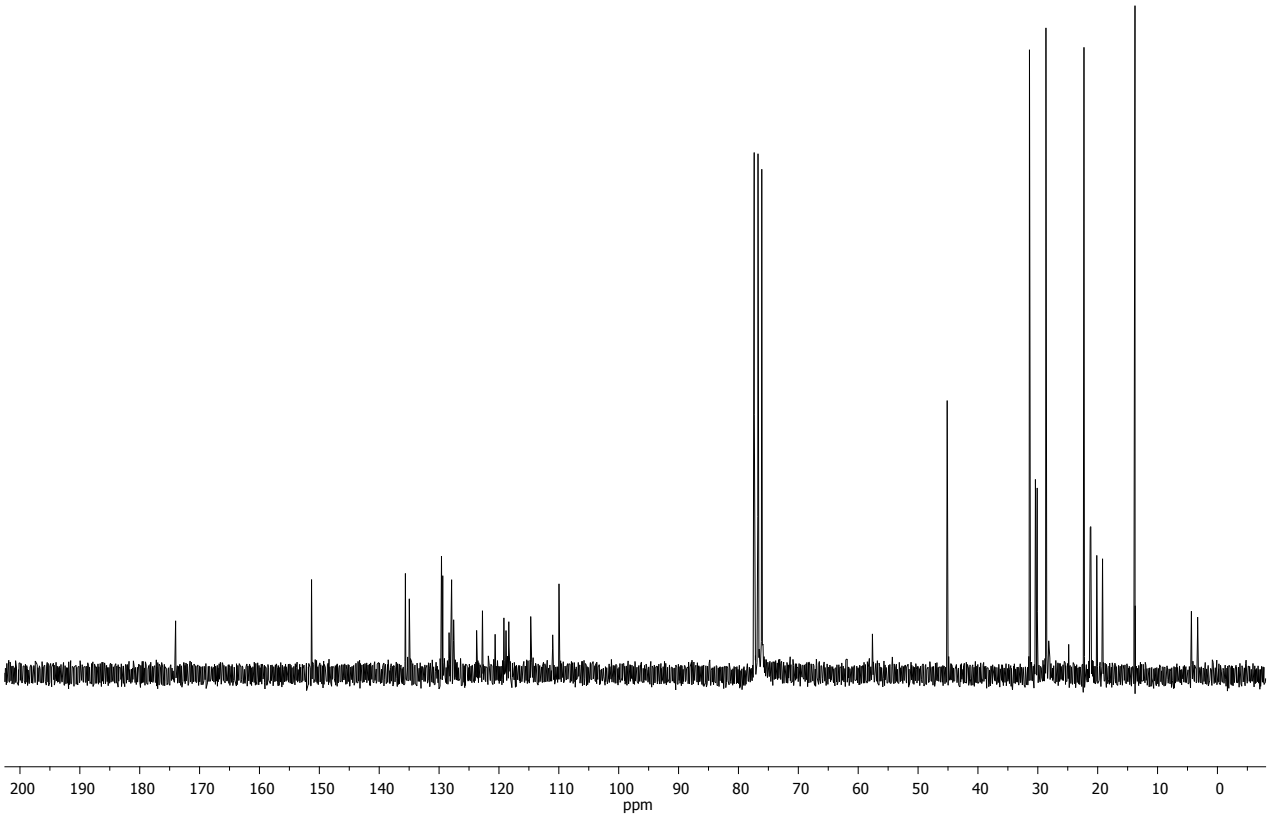
$^1$H NMR (400 MHz, 298 K, $CDCl_3$) δ: 8.42 (d, *J* = 7.9 Hz, 1H, *H*-4 DNS), 8.26 (d, *J* = 8.2 Hz, 1H, *H*-8 DNS), 8.09 (d, *J* = 6.1 Hz, 1H, *H*-2 DNS), 7.55 (s, 1H, -(CO)N*H*-$CO_2$H), 7.40 (d, *J* = 7.6 Hz, 2H, *H*-3 + *H*-7 DNS), 7.12 (d, *J* = 7.1 Hz, 1H, *H*-6 DNS), 6.94 (s, 1H, -$SO_2$N*H*-), 4.30 (-$CO_2H$), 4.12 (d, *J* = 7.1 Hz, 1H,-N*H*$CH_2CO_2$H), 3.77 (s, 2H, -NHC$H_2CO_2$H), 3.55 (s, 2H, -NHC$H_2$CONH-), 2.86 (d, J = 21.2 Hz, 6H, -$N(CH_3)_2$).

*Trioctylmethylphosphonium 3-indolyl-2-dansylamidopropanoate, [$P_{1888}$][DNS-Trp]* (**1d**)

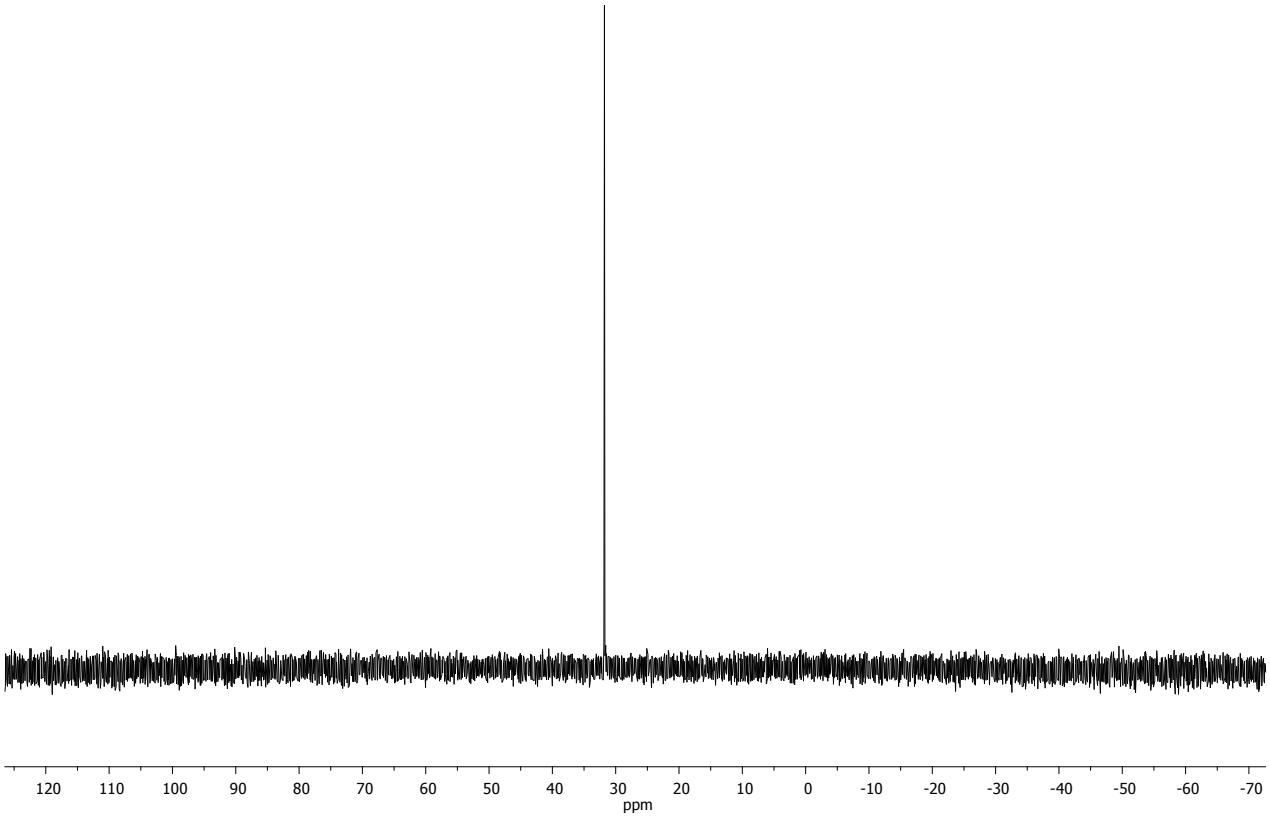


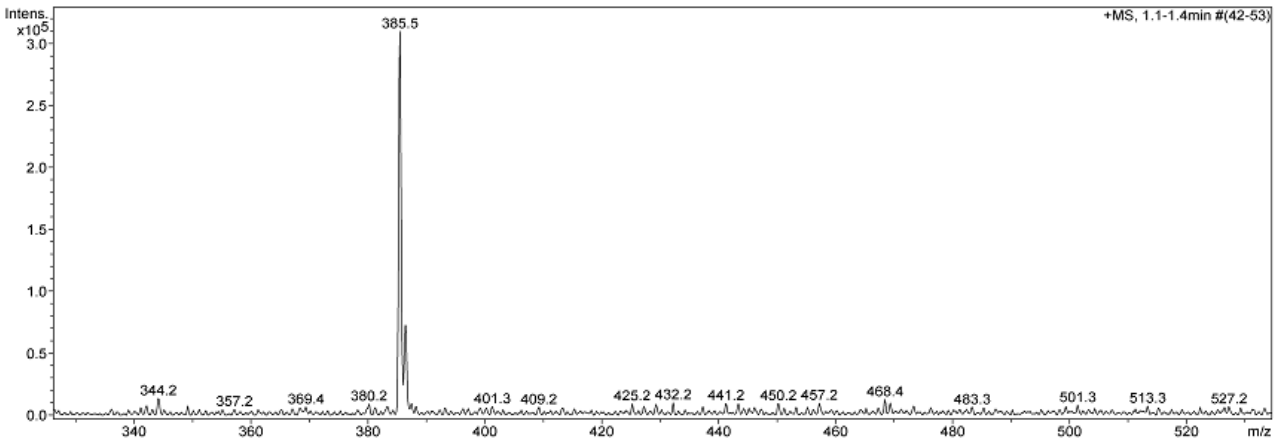

$^1$H NMR (400 MHz, 298 K, $CDCl_3$) δ: δ 9.73 (s, 1H, N<u>H</u> Ind), 8.41 (d, *J* = 8.5 Hz, 1H, H-4 DNS), 8.28 (d, *J* = 8.7 Hz, 1H, H-8 DNS), 8.10 (d, *J* = 7.2 Hz, 1H, H-2 DNS), 7.52 – 7.40 (m, 2H, H-3 + H-7 DNS), 7.39 – 7.27 (m, 2H, H-4 + H-7 Ind), 7.09 (d, *J* = 7.5 Hz, 1H, H-6 DNS), 7.00 (d, *J* = 7.2 Hz, 2H, , H-5 + H-6 Ind), 6.93 (d, *J* = 7.5 Hz, 1H, H-2 Ind), 5.29 (s, 1H- $SO_2$N<u>H</u>-), 4.03 (t, *J* = 4.8 Hz, 1H, $SO_2$NH-C<u>H</u>-), 3.31 – 3.11 (m, 2H, Ind-(C<u>H$_2$</u>)-), 2.89 (m, 6H, -N(C<u>H$_3$</u>)$_2$), 2.09 – 1.86 (m, 6H, -C<u>H$_2$</u>-$(CH_2)_6CH_3$ $[P_{1888}]^+$), 1.51 (d, *J* = 13.3 Hz, 3H, -$CH_3$ $[P_{1888}]^+$), 1.43 – 1.06 (m, 42H, -(C<u>H$_2$</u>)$_6$$CH_3$ $[P_{1888}]^+$).) , 0.86 (t, *J* = 6.8 Hz, 3H, -$(CH_2)_7$C<u>H$_3$</u> $[P_{1888}]^+$).



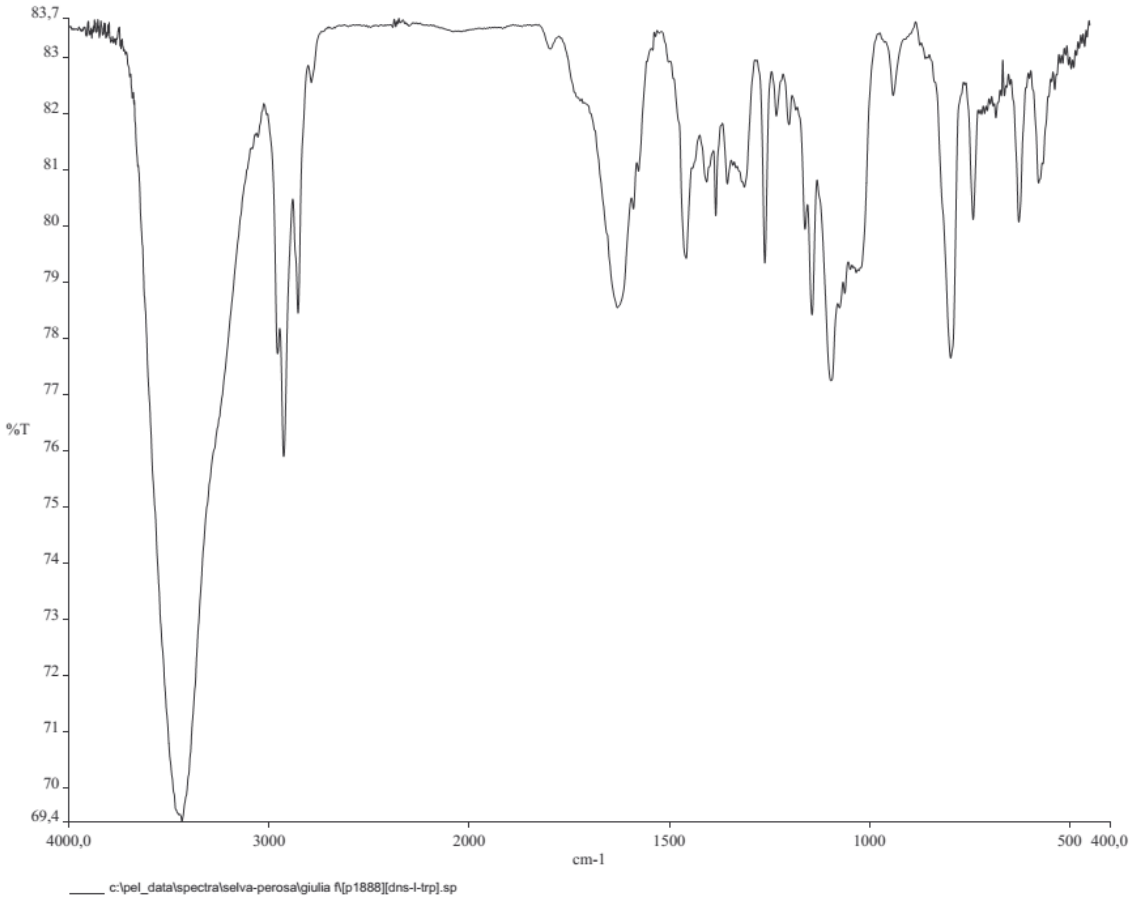

$^{13}$C NMR (50 MHz, 298 K, $CDCl_3$) δ: 174.01 (-$\underline{C}O_2H$), 151.30 (C-5 DNS), 135.63 (C-9 Ind), 134.98 (C-1 DNS), 129.60 (C-4 DNS), 129.39 (C-7 DNS), 128.34 (C-9 DNS), 127.91 (C-4 DNS), 127.57 (C-8 Ind), 123.73 (C-3 DNS), 122.75 (C-2 DNS), 120.64 (C-2 Ind), 119.17 (C-8 DNS), 118.82 (C-5 Ind), 118.36 (C-7 Ind), 114.70 (C-6 DNS), 111.03 (C-4 Ind), 109.97 (C-1 Ind), 57.62 (C-3 Propyl), 45.14(-N($\underline{C}H_3)_2$), 31.40 (C-2 Propyl), 30.40 (C-5 $[P_{1888}]^+$), 30.11 (C-4 $[P_{1888}]^+$), 28.60 (-$\underline{C}H_2CO_2^-$), 22.29 (C-3 $[P_{1888}]^+$), 21.19 (d, C-2 $[P_{1888}]^+$), 20.15 (C-7 $[P_{1888}]^+$), 19.19 (t, C-1 $[P_{1888}]^+$), 13.75 (C-8 $[P_{1888}]^+$), 4.35 - 3.31 (-$\underline{C}H_3$ $[P_{1888}]^+$).



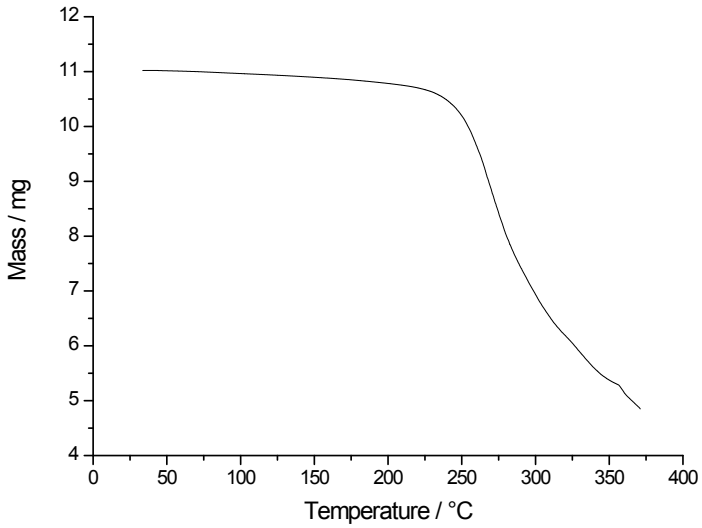

$^{31}P$ NMR (81 MHz, 298 K, $CDCl_3$) δ: 31.77.




ESI-MS (FIA, $CH_3CN$): 385 ($[P_{1888}]^+$); 436 ($[C_{23}H_{22}N_3O_4S]^-$.

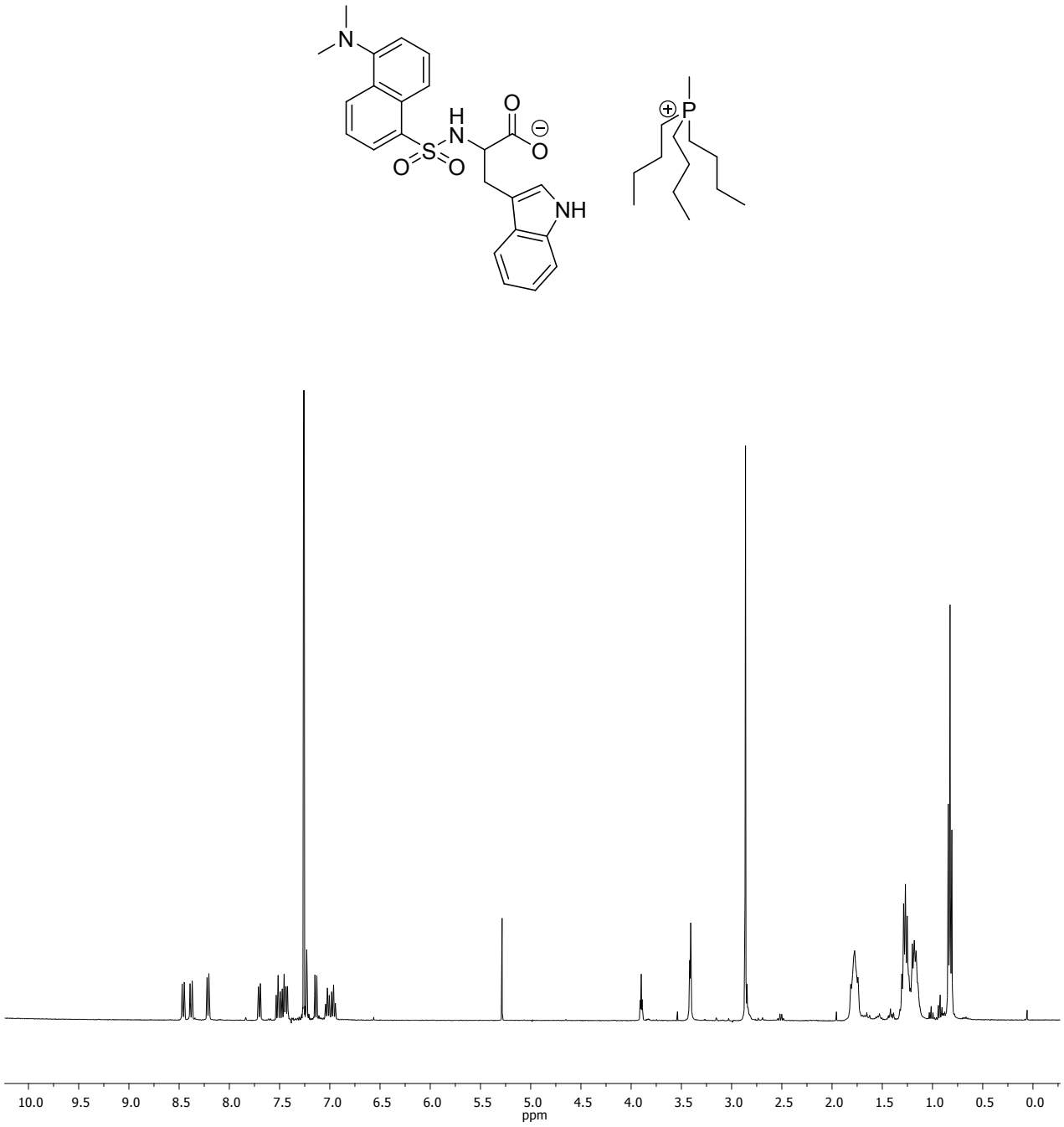



IR (KBr): 3435 (b), 2960, 2920, 2850 (m), 1640 (b), 1455 (sh), 1265 (sh), 1105 (b), 805 (sh).

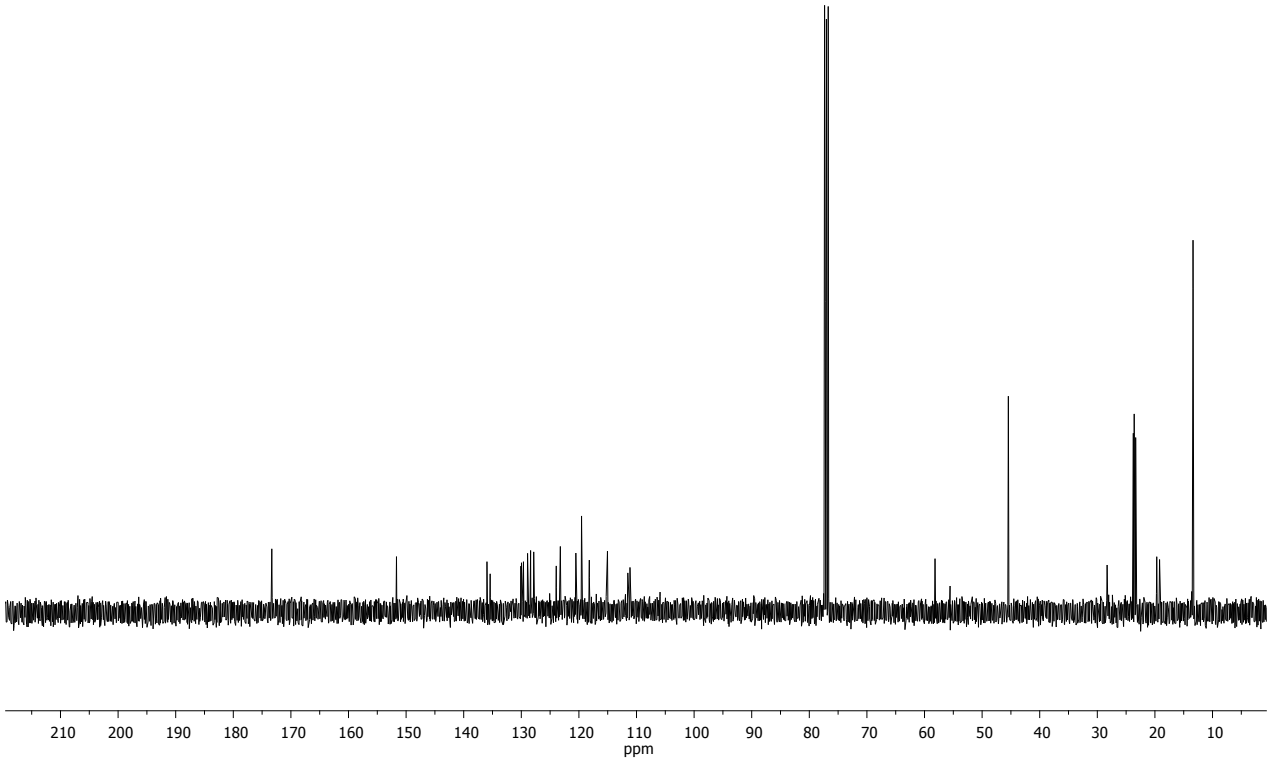



TGA

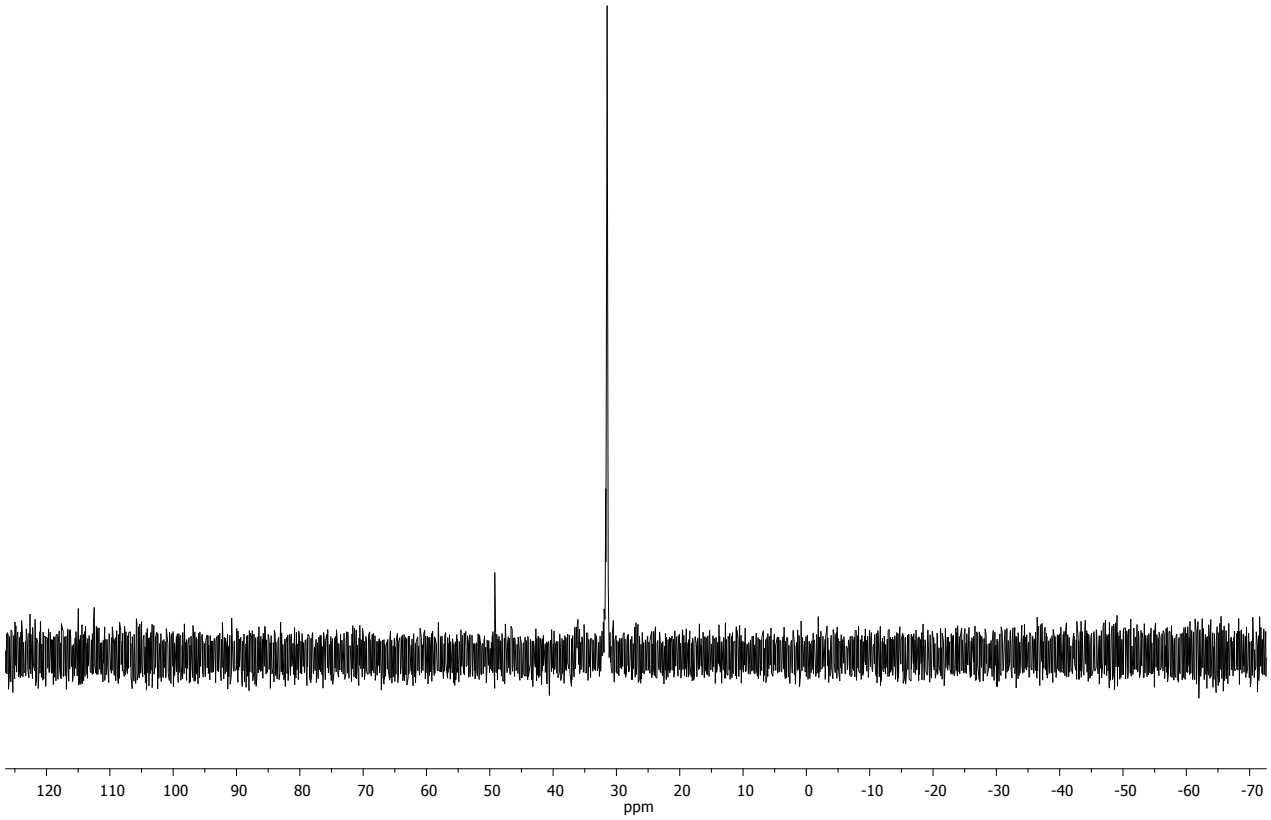
*Tributylmethylphosphonium 3-indolyl-2-dansylamidopropanoate, [$P_{1444}$][DNS-Trp]* (**1e**)



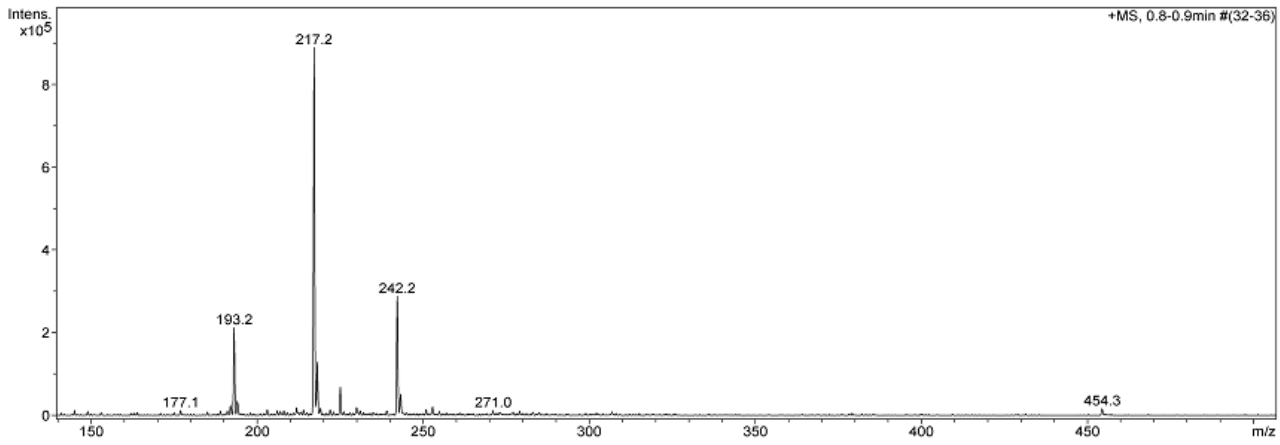

$^1$H NMR (400 MHz, 298 K, $CDCl_3$) δ: 8.46 (d, *J* = 9.2 Hz, 1H, H-4 DNS), 8.38 (d, *J* = 8.6 Hz, 1H, H-8 DNS), 8.21 (d, *J* = 7.3 Hz, 1H, H-2 DNS), 7.70 (d, *J* = 7.7 Hz, 1H, H-3 DNS), 7.51 (s, 1H, H-7 DNS), 7.45 (m, 2H, H-6 DNS + H-4 Ind), 7.23 (s, 1H, $SO_2N\underline{H}$), 7.14 (d, *J* = 7.6 Hz, 1H, H-5 Ind), 7.02 (dd, *J* = 13.6, 5.7 Hz, 1H, H-6 Ind), 6.96 (t, *J* = 7.4 Hz, 1H, H-7 Ind), 5.29 (d, *J* = 1.2 Hz, 1H, -N<u>H</u> Ind), 3.90 (s, 1H, -$SO_2$NH-C<u>H</u>-), 3.41 (t, *J* = 2.7 Hz, 2H, Ind-(C<u>$H_2$</u>)-), 2.86 (s, 6H, -N(C<u>$H_3$</u>)$_2$), 1.76 (m, 3H, -C<u>$H_3$</u> [$P_{1444}$]$^+$), 1.24 (m, 18H, -(C<u>$H_2$</u>)$_3$$CH_3$ [$P_{1888}$]$^+$), 0.83 (t, *J* = 7.1 Hz, 3H, -$(CH_2)_3$C<u>$H_3$</u> [$P_{1444}$]$^+$).



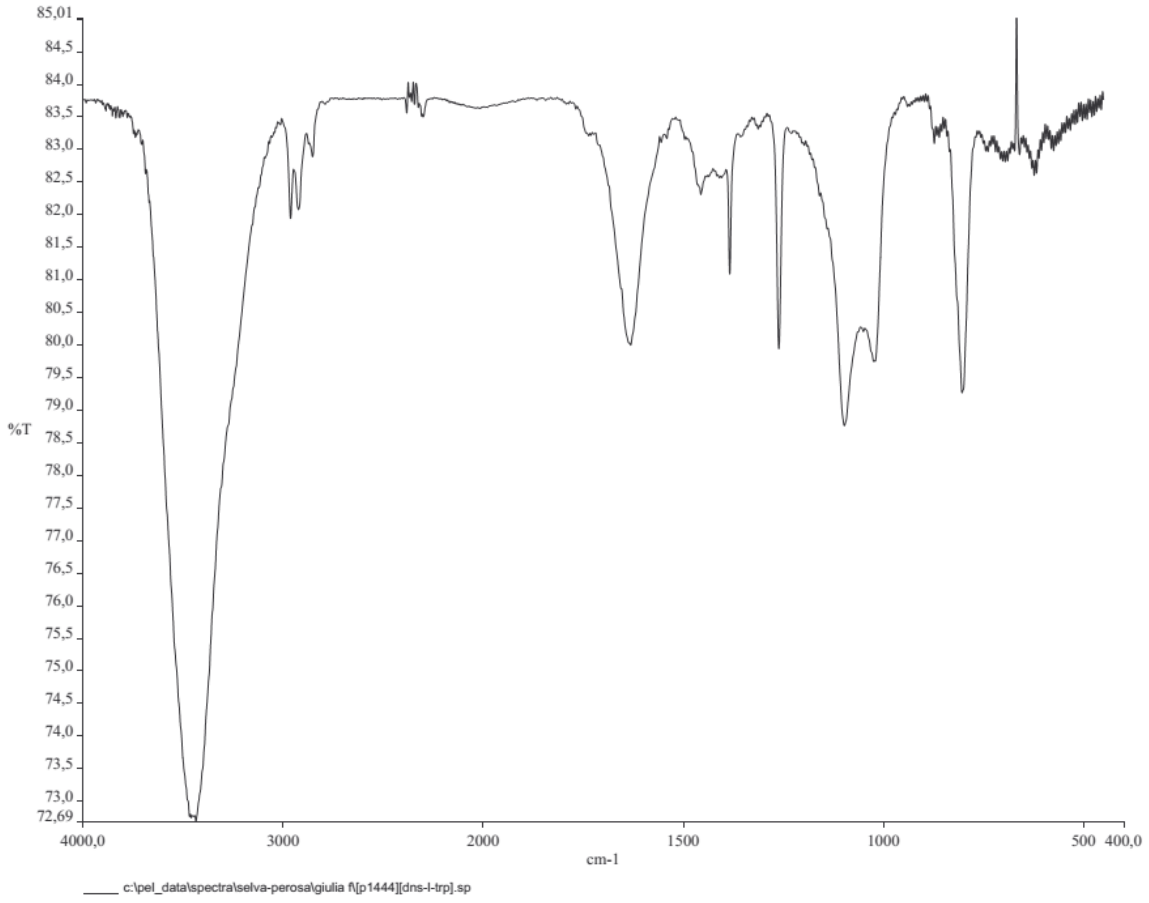

$^{13}$C NMR (101 MHz, 298 K, $CDCl_3$) δ: 173.32 (-$\underline{C}O_2H$), 151.67 (C-5 DNS), 136.40 (C-9 Ind), 135.27 (C-9 DNS), 132.47 (C-1 DNS), 130.08 (C-4 DNS), 129.94 (C-7 DNS), 129.63 (C-2 DNS), 128.88 (C-8 Ind), 128.39 (C-10 DNS), 127.85 (C-2 Ind), 123.93 (C-3 DNS), 123.22 (C-5 Ind), 120.53 (C-6 Ind), 119.54 (C-7 Ind), 118.19 (C-8 DNS), 115.04 (C-6 Ind), 111.51 (C-4 Ind), 111.13 (C-1 Ind), 58.17 (C-2 Propyl), 45.44 (-N($\underline{C}H_3$)$_2$), 28.30 (-$\underline{C}H_2$-Ind), 23.60 (t, C-1 $[P_{1444}]^+$), 19.68 (d, C-2 $[P_{1444}]^+$) 13.38 (C-3 $[P_{1444}]^+$).



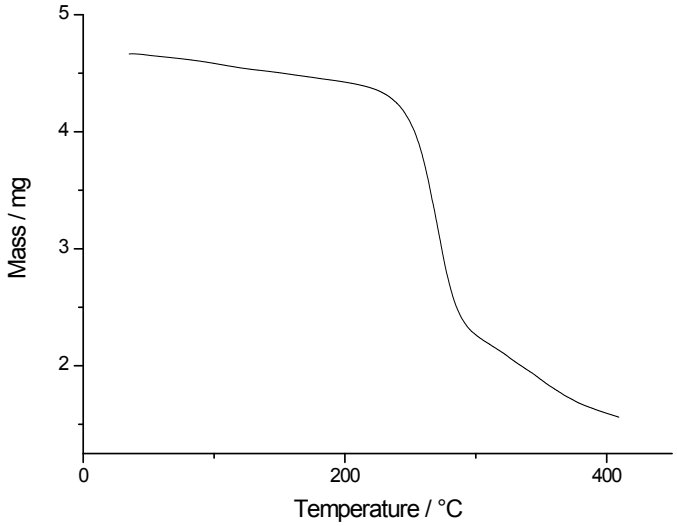

$^{31}P$ NMR (81 MHz, 298 K, $CDCl_3$) δ: 31.48.




ESI-MS (FIA, $CH_3CN$): 217 ($[P_{1444}]^+$); 436 ($[C_{23}H_{22}N_3O_4S]^-$).

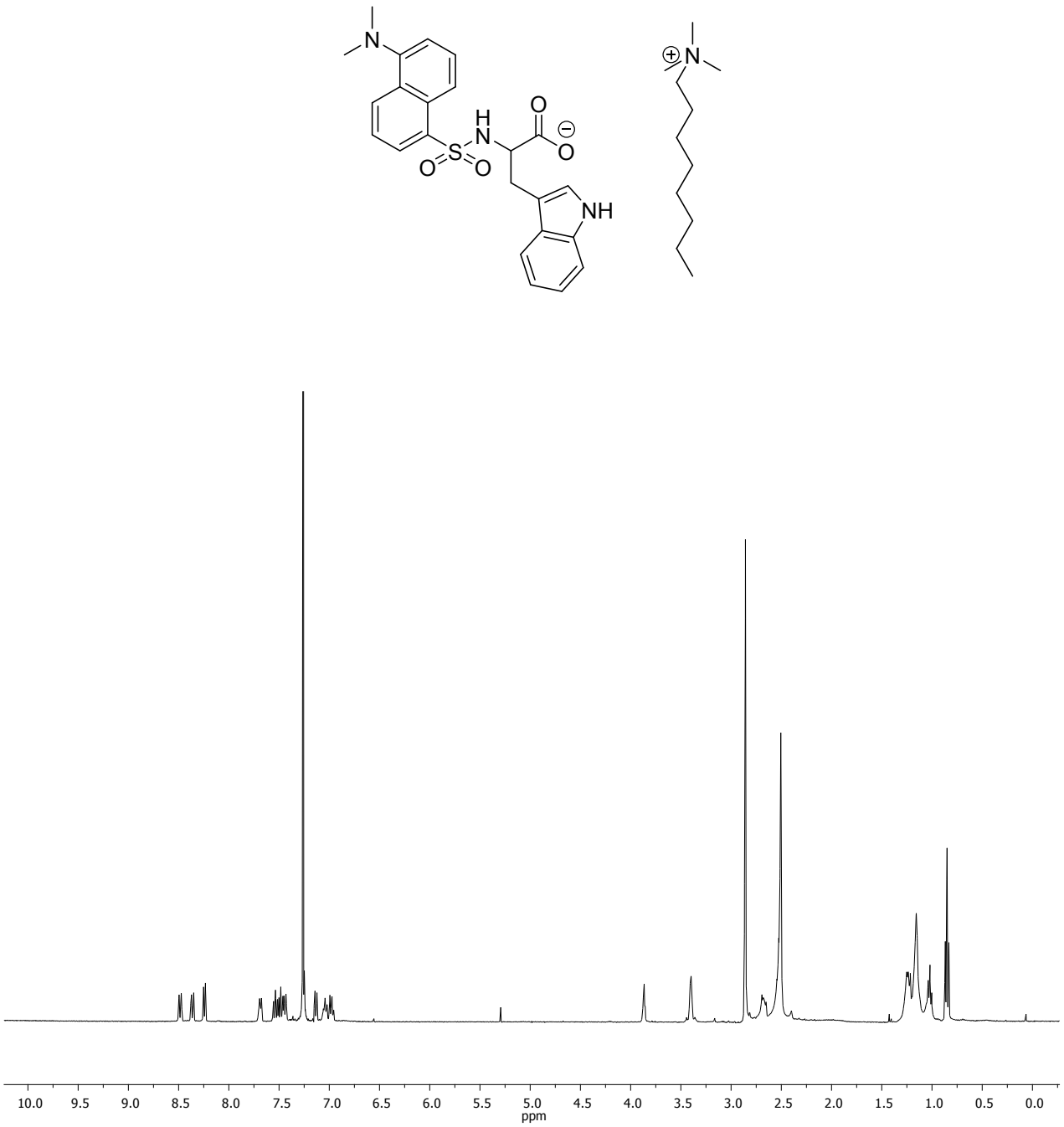



IR (KBr): 3430 (b), 2970, 2920, 2860 (w), 1640 (b), 1385 (sh), 1260 (sh), 1105, 1030 (b), 810 (sh).

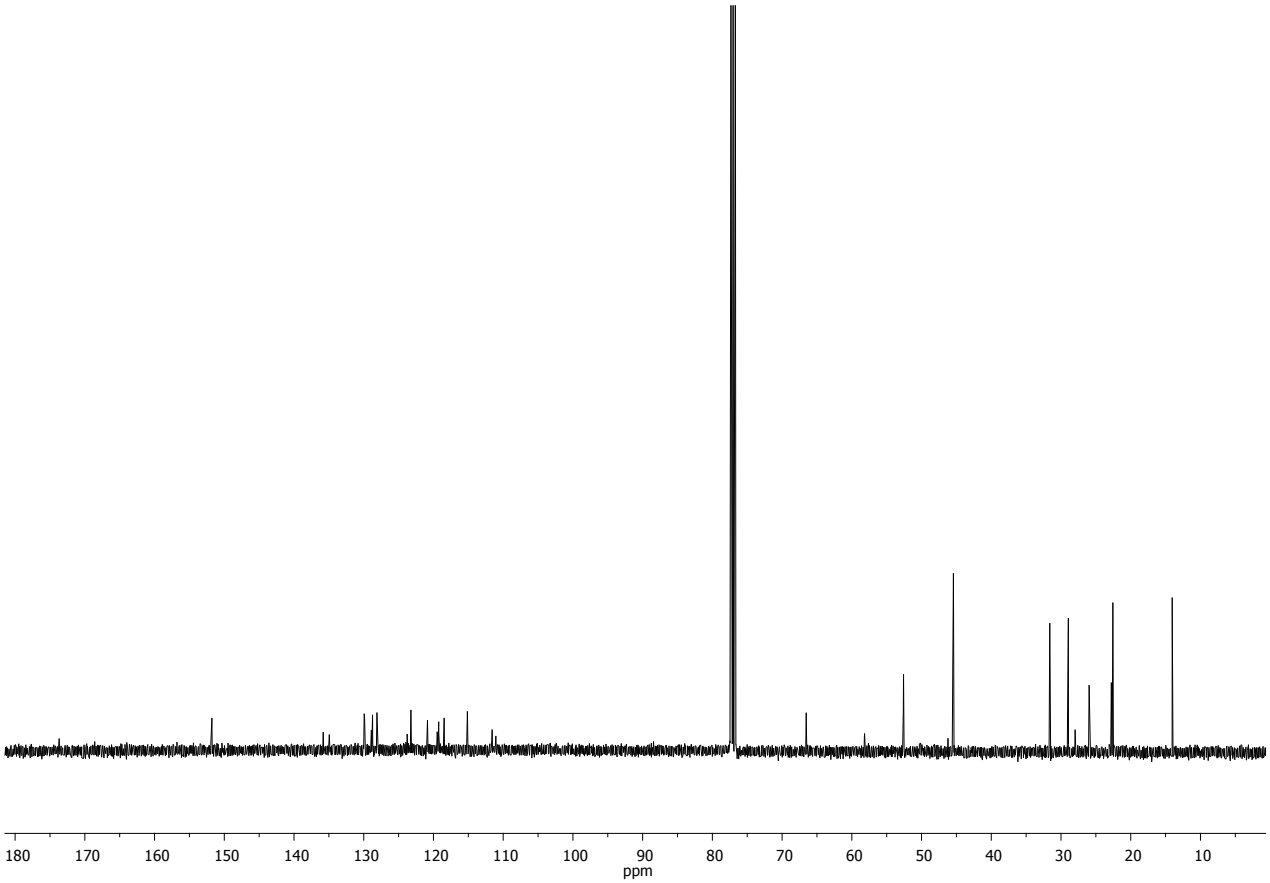



TGA

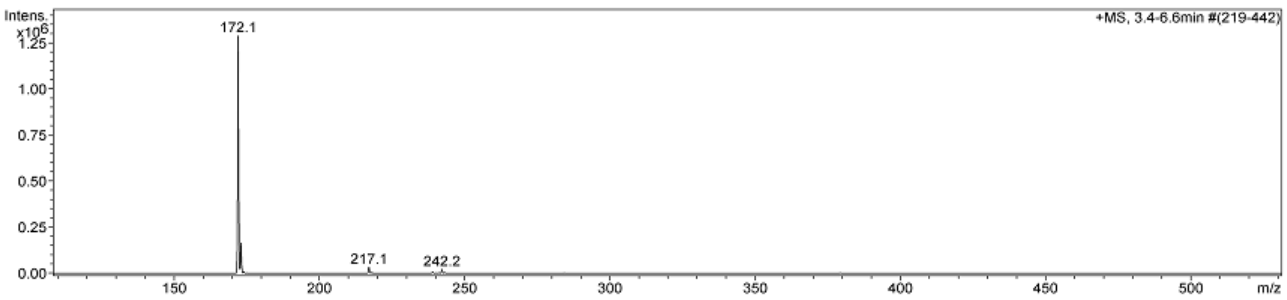
*Trimethyloctylammonium 3-indolyl-2-dansylamidopropanoate, [$N_{1118}$][DNS-L-Trp]* (**1f**)



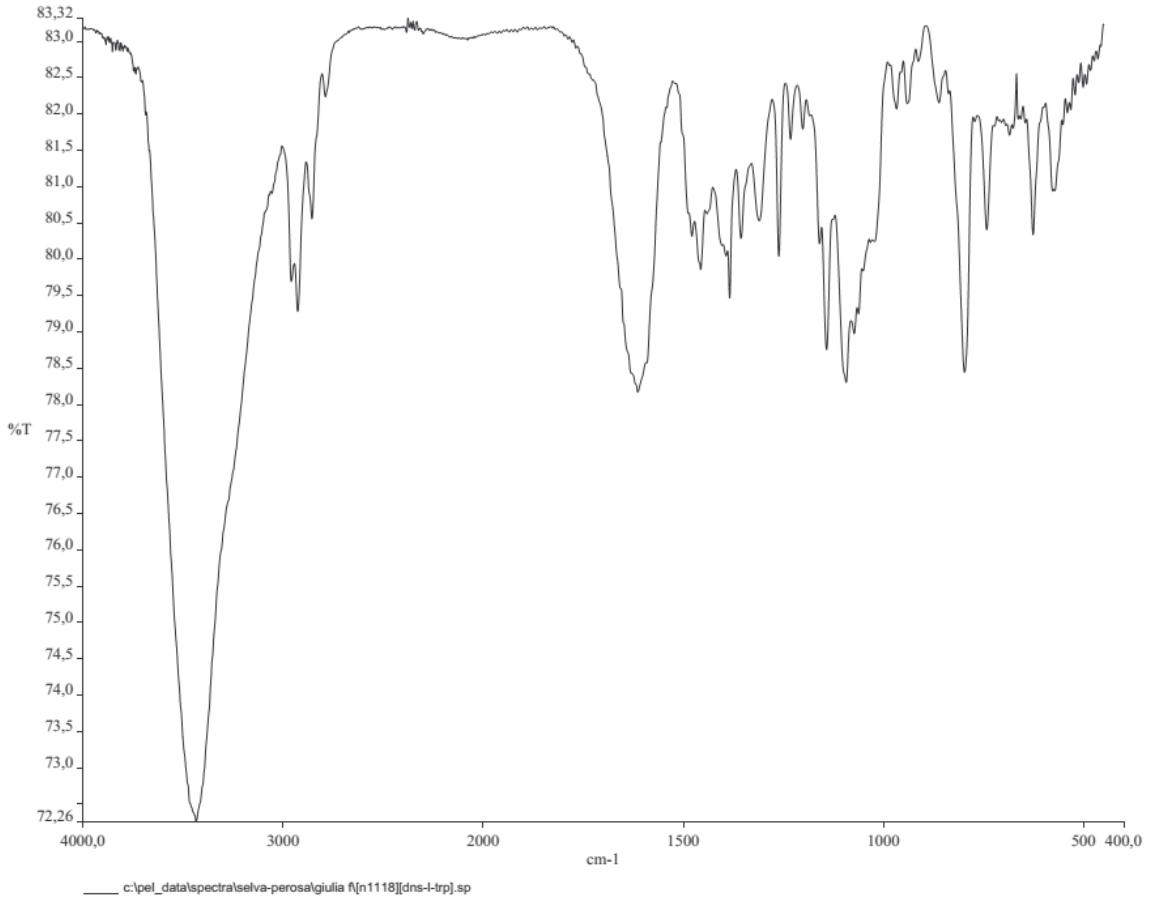
$^1$H NMR (400 MHz, 298 K, $CDCl_3$) δ: 8.50 – 8.45 (m, 1H, H-4 DNS), 8.36 (d, *J* = 8.7 Hz, 1H, H-8 DNS), 8.24 (dd, *J* = 7.3, 1.3 Hz, 1H, H-2 DNS), 7.68 (d, *J* = 7.8 Hz, 1H, H-3 DNS), 7.58 – 7.41 (m, 4H, H-7 DNS + H-6 DNS + H-4 Ind), 7.26 (H-2 Ind),7.14 (dd, *J* = 7.6, 2.7 Hz, 1H, H-5 Ind), 7.04 (t, *J* = 7.5 Hz, 1H, H-6 Ind), 7.01 – 6.94 (m, 1H, H-7 Ind), 5.29 (d, *J* = 1.1 Hz, 1H, -N<u>H</u> Ind), 3.86 (d, *J* = 4.2 Hz, 1H, -$SO_2$NH-C<u>H</u>-), 3.40 (d, *J* = 3.0 Hz, 2H, Ind-(C<u>$H_2$</u>)-), 2.85 (s, 6H, -N(C<u>$H_3$</u>)$_2$), 2.76 – 2.63 (m, 2H, -C<u>$H_2$</u>-$(CH_2)_2CH_3$ [$N_{1118}$]$^+$), 2.52 (s, 9H, -C<u>$H_3$</u> [$N_{1118}$]$^+$), 1.23 (dd, *J* = 12.2, 3.6 Hz, 4H, -(C<u>$H_2$</u>)$_2$-$(CH_2)_4CH_3$ [$N_{1118}$]$^+$), 1.16 (s, 6H, -(C<u>$H_2$</u>)$_2$-$CH_2CH_3$ [$N_{1118}$]$^+$), 1.09 – 0.98 (m, 2H), 0.85 (td, *J* = 7.0, 1.3 Hz, 3H, -$(CH_2)_7$C<u>$H_3$</u> [$N_{1118}$]$^+$).



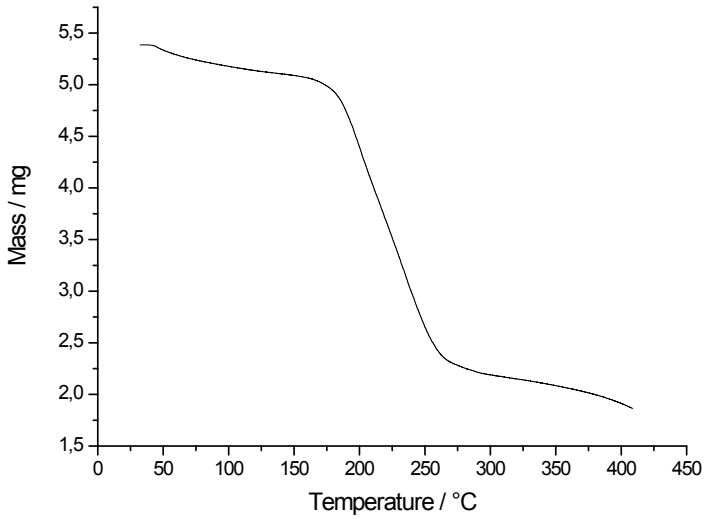

$^{13}$C NMR (100 MHz, 298 K, $CDCl_3$) δ: 173.66, (-$\underline{C}O_2H$), 151.78 (C-5 DNS), 135.89 (C-9 Ind), 134.81 (C-9 DNS), 129.94 (C-1 DNS), 129.88 (C-4 DNS), 128.90 (C-7 DNS), 128.74 (C-2 DNS), 128.10 (C-8 Ind), 123.82 (C-10 DNS)), 123.77 (C-2 Ind), 123.24 (C-3 DNS), 120.86 (C-5 Ind), 119.46 (C-6 Ind), 119.25 (C-7 Ind), 118.47 (C-8 DNS), 115.13 (C-6 Ind), 111.58 (C-4 Ind), 110.90 (C-1 Ind), 66.54 (C-1 $[N_{1118}]^+$), 58.17 (C-2 Propile), 52.59 (-CH3 $[N_{1118}]^+$), 45.43 (-N($\underline{C}H_3)_2$), 31.61 (C-3 $[N_{1118}]^+$), 29.00 (C-4 $[N_{1118}]^+$), 28.95 (C-5 $[N_{1118}]^+$), 25.97 (C-6 $[N_{1118}]^+$), 22.78 (C-7 $[N_{1118}]^+$), 22.56 (C-2 $[N_{1118}]^+$), 14.05 (C-8 $[N_{1118}]^+$).




ESI-MS (FIA, $CH_3CN$): 172 ($[N_{1118}]^+$); 436 ($[C_{23}H_{22}N_3O_4S]^-$).

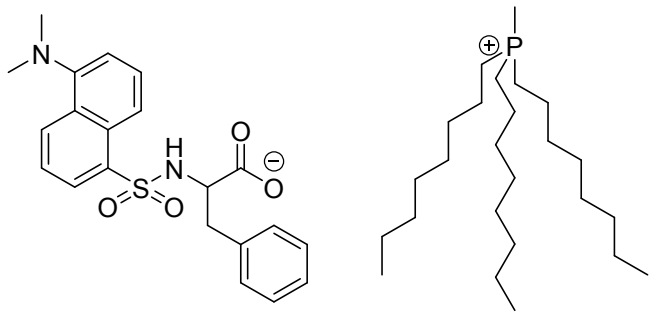


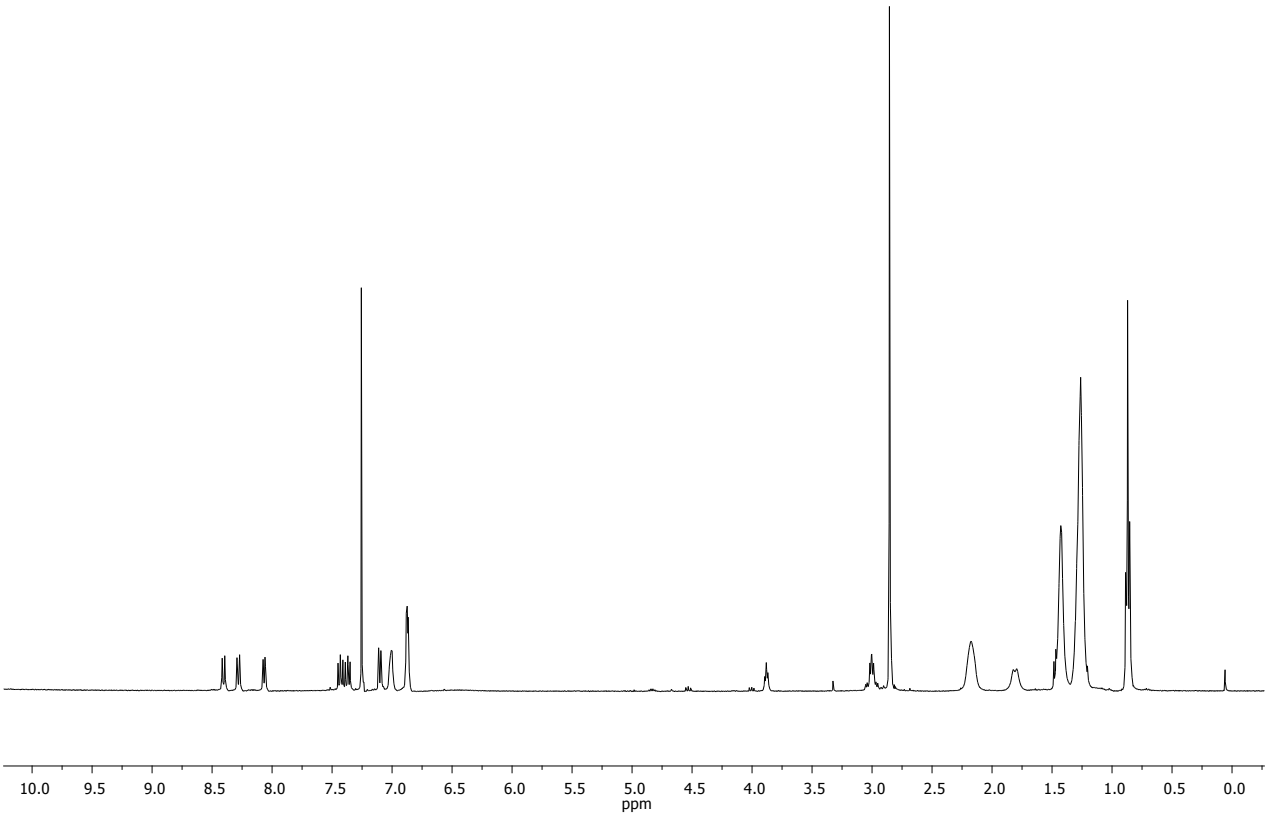

IR (KBr): 3455 (b), 2955 (m), 2960, 2930, 2860 (w), 1620 (b), 1145 (sh), 1090 (m), 795 (sh).



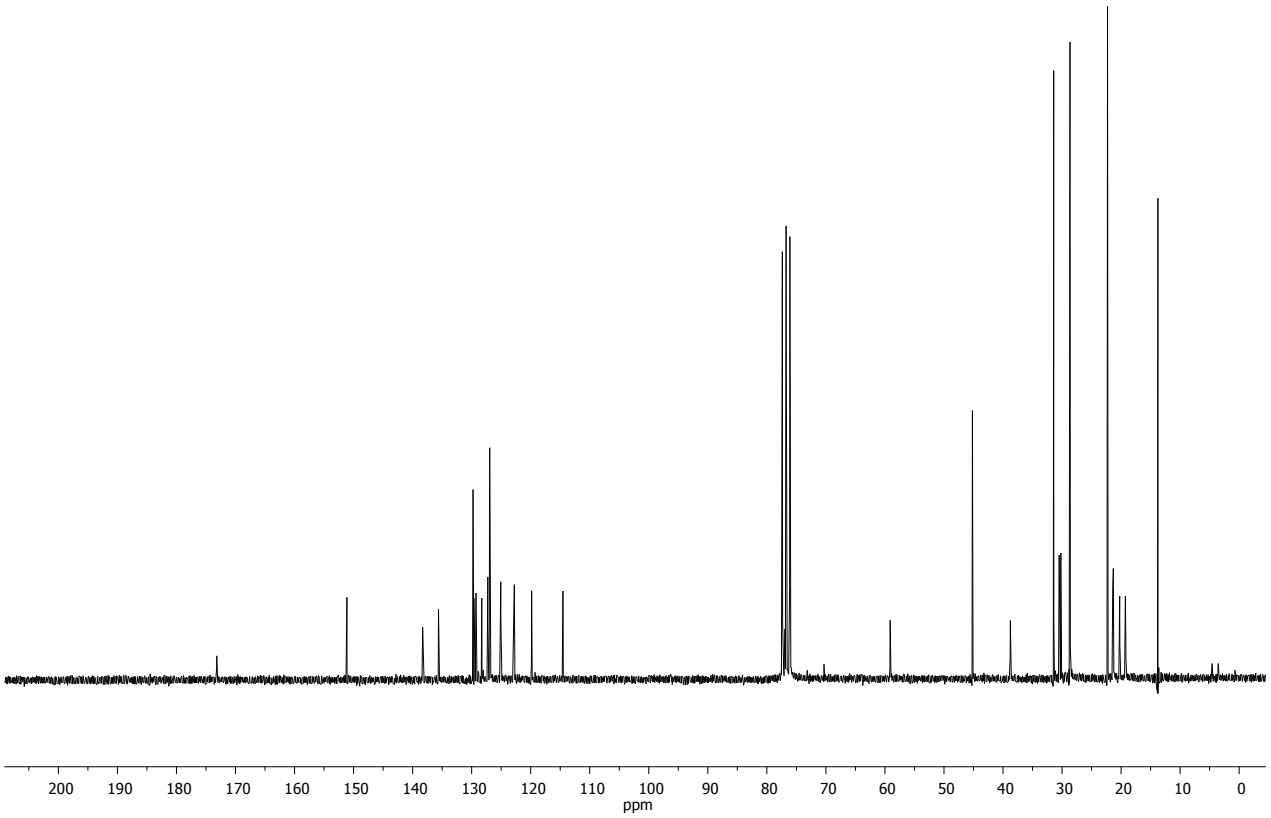

TGA

*Trioctylmethylphosphonium 3-phenyl-2-dansylamidopropanoate, [$P_{1888}$][DNS-Phe]* (**2d**)

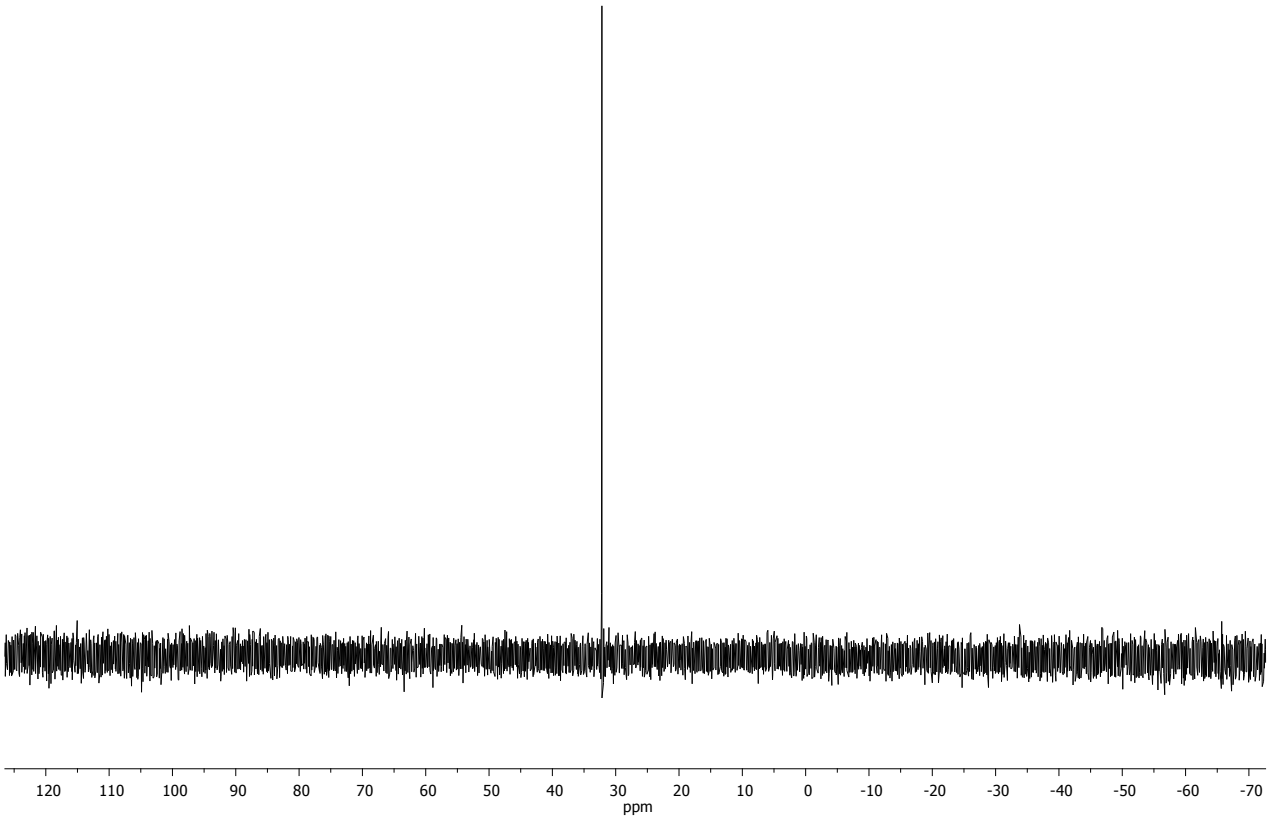




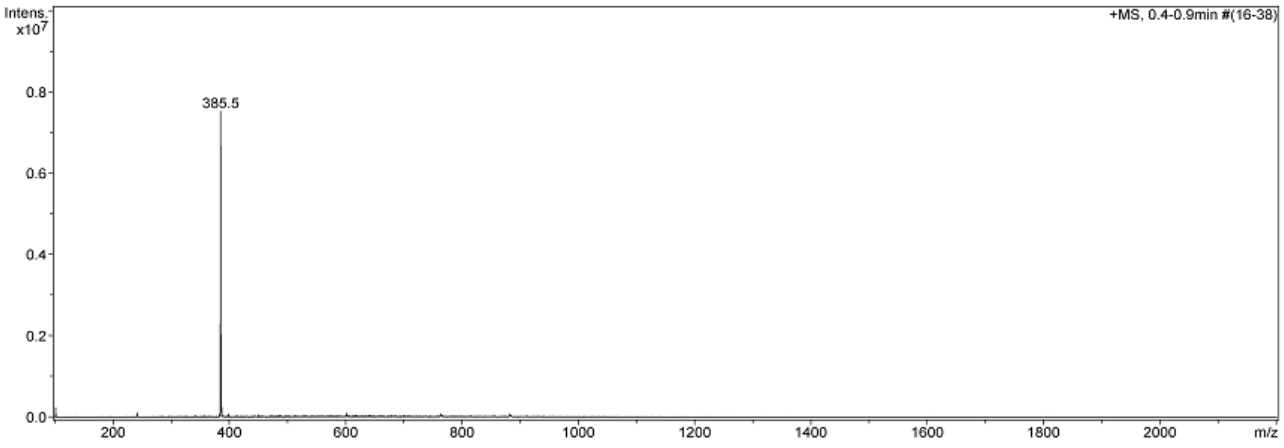

$^1$H NMR (400 MHz, 298 K, $CDCl_3$) δ: 8.40 (d, *J* = 8.5 Hz, 1H, H-4 DNS), 8.28 (d, *J* = 8.6 Hz, 1H, H-8 DNS), 8.16 – 7.98 (m, 1H, H-2 DNS), 7.47 – 7.33 (m, 2H, H-3 + H-7 DNS), 7.10 (d, *J* = 7.4 Hz, 1H, H-6 DNS), 7.00 (d, *J* = 2.9 Hz, 2H, H-2 + H-6 Ph), 6.92 – 6.82 (m, 3H,H-3 + H-4 + H-5 Ph), 3.87 (d, *J* = 4.9 Hz, 1H, -$SO_2$NH-C<u>H</u>-), 3.09 – 2.91 (m, 2H, PhC<u>$H_2$</u>-), 2.86 (d, *J* = 3.3 Hz, 6H, -N(C<u>$H_3$</u>)$_2$), 2.17 (s, 6H, -C<u>$H_2$</u>$(CH_2)_6CH_3$ [$P_{1888}$]$^+$), 1.81 (d, *J* = 11.6 Hz, 3H, -C<u>$H_3$</u> [$P_{1888}$]$^+$), 1.45 (dd, *J* = 21.0, 4.6 Hz, 12H, -C<u>$H_2$</u>C<u>$H_2$</u>$(CH_2)_3CH_3$ [$P_{1888}$]$^+$), 1.23 (d, *J* = 22.6 Hz, 24H, -(C<u>$H_2$</u>)$_3CH_3$ [$P_{1888}$]$^+$), 0.87 (t, *J* = 6.8 Hz, 9H, -$(CH_2)_7$C<u>$H_3$</u> [$P_{1888}$]$^+$).



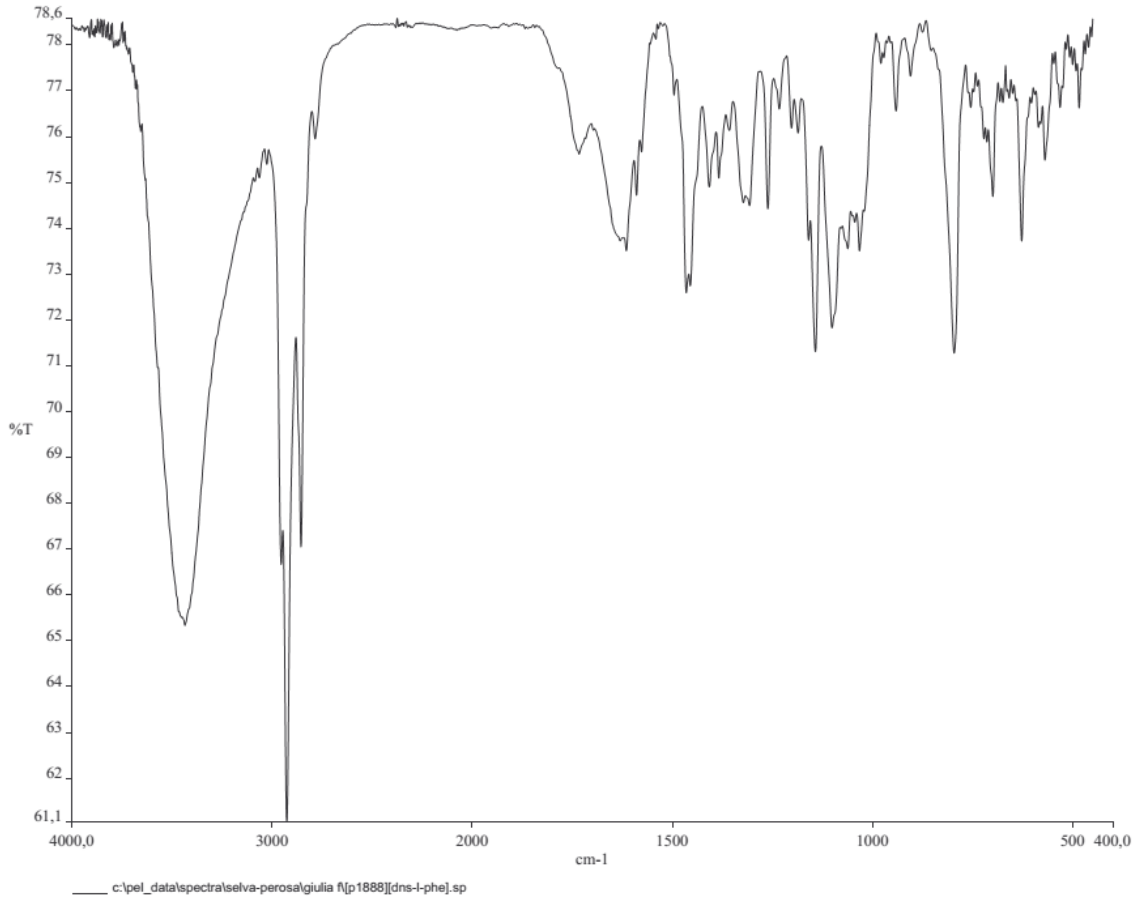

$^{13}$C NMR (50 MHz, 298 K, $CDCl_3$) δ: 173.18 (-$\underline{C}O_2H$), 151.13 (C-5 DNS), 138.30 (C-1 DNS), 135.62 (C-1 Ph), 129.76 (C-8 DNS), 129.62 (C-3 Ph), 129.59 (C-5 Ph), 129.26 (C-4 DNS), 128.29 (C-6 DNS), 127.27 (C-2 + C-6 Ph), 126.95 (C-3 DNS), 125.07 (C-4 Ph), 122.77 (C-7 DNS), 119.84 (C-10 DNS), 114.53 (C-5 DNS), 59.12 (C-2 Propile), 45.18 (-N($\underline{C}H_3$)$_2$, 31.39 (C-6 $[P_{1888}]^+$), 30.49 (C-5 $[P_{1888}]^+$), 30.20 (C-4 $[P_{1888}]^+$), 28.64 (-$\underline{C}H_2CO_2^-$), 22.31 (C-3 $[P_{1888}]$), 21.36 (d, C-2 $[P_{1888}]^+$), 20.24 (C-7 $[P_{1888}]^+$), 19.27 (t, C-1 $[P_{1888}]^+$), 13.75 (C-8 $[P_{1888}]^+$), 4.59 – 3.55 (d, -$\underline{C}H_3$ $[P_{1888}]^+$).



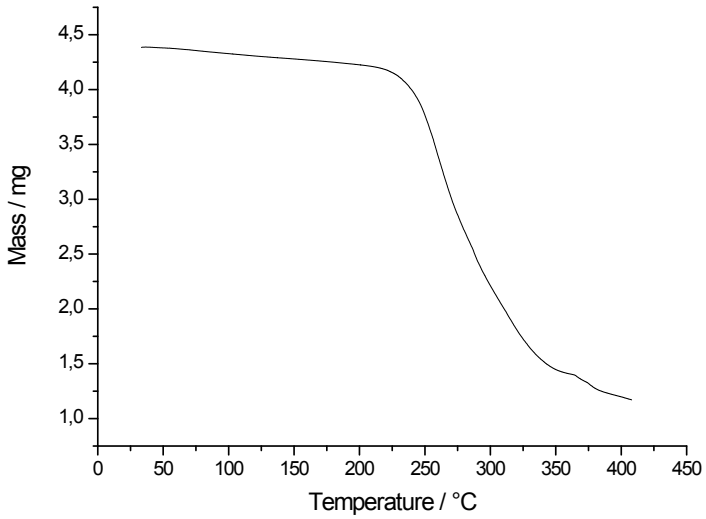

$^{31}P$ NMR (811 MHz, 298 K, $CDCl_3$) δ: 32.18.




ESI-MS (FIA, $CH_3CN$): 385 ($[P_{1888}]^+$); 397 ($[C_{21}H_{21}N_2O_4S]^-$).

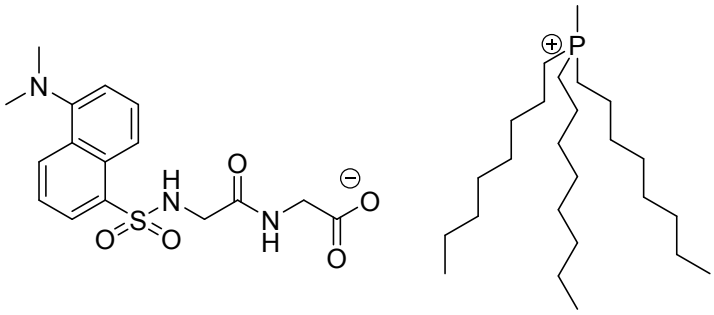


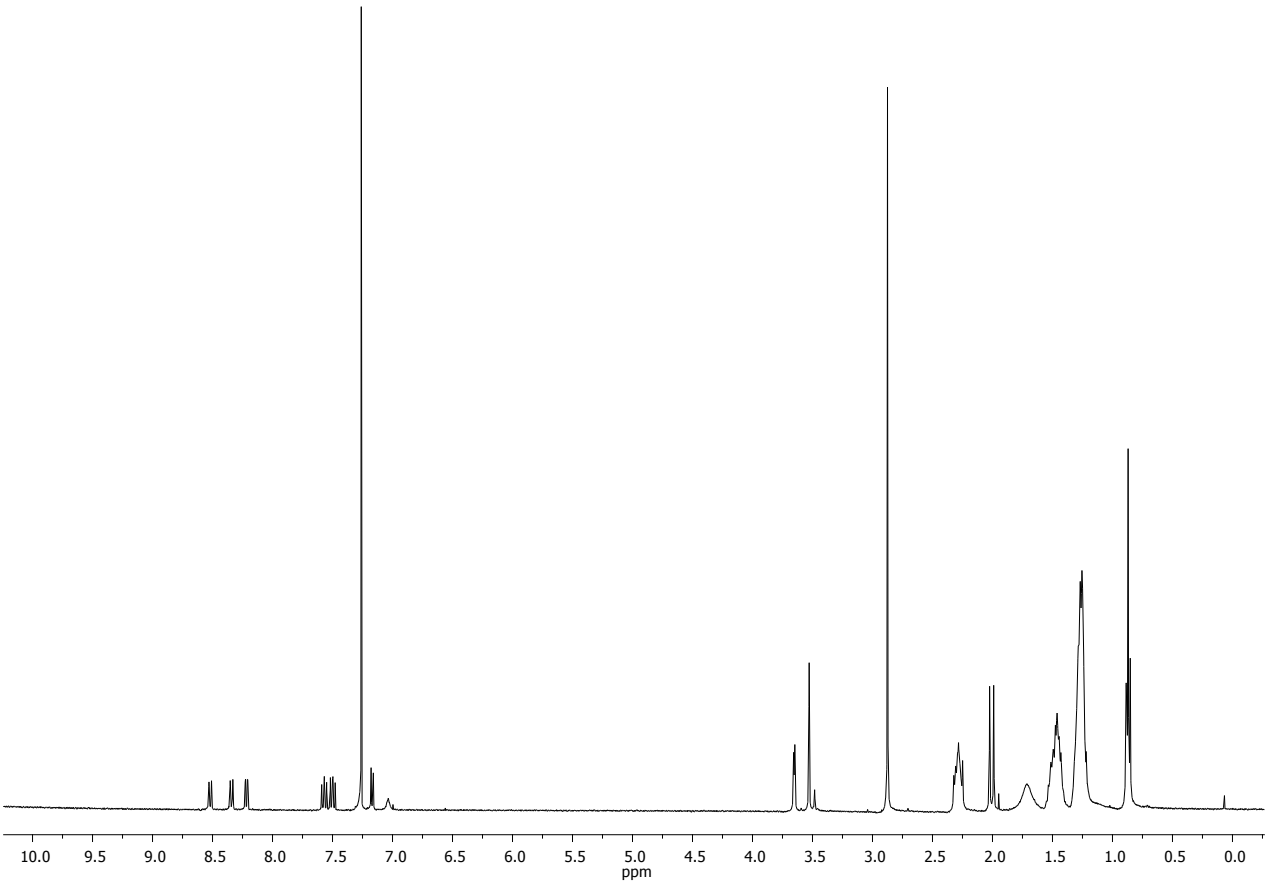

IR (KBr): 3440 (b), 2955, 2935, 2860 (sh), 1745, 1640 (b), 1460 (sh), 111500 (sh), 1090 (b), 790 (sh).



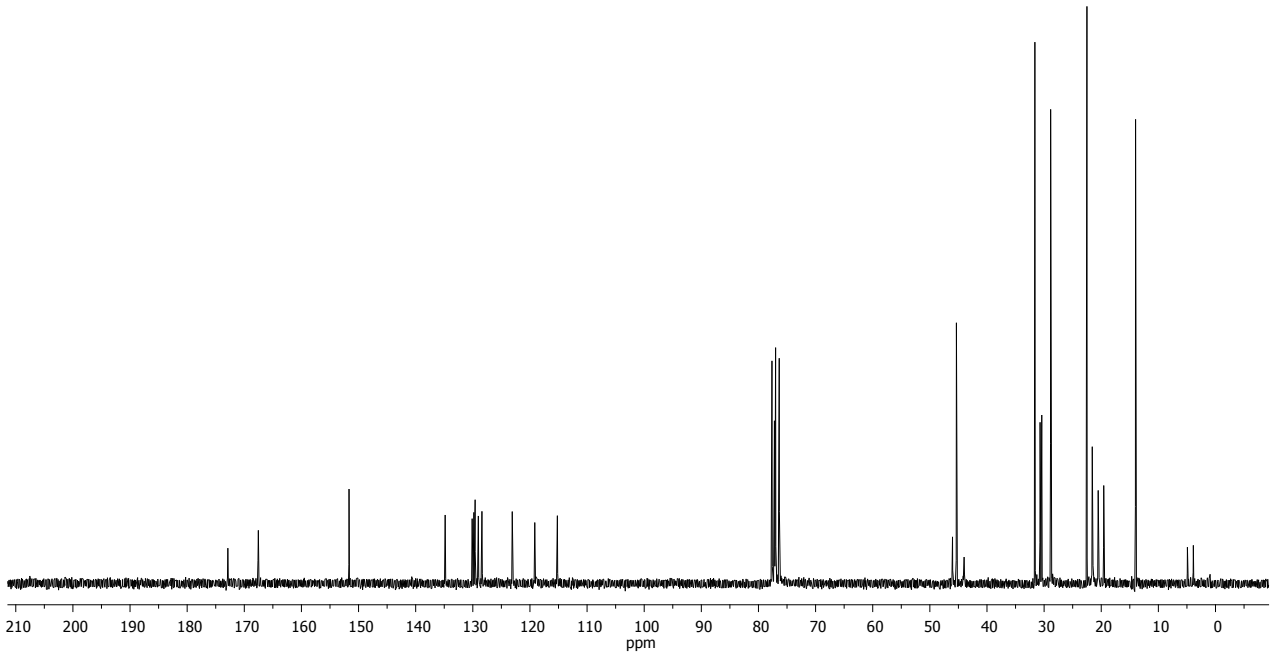

TGA

*Methyltrioctylphosphonium 2-(3-dansylamido-2-oxo)aminoetanoate, [$P_{1888}$][DNS-Gly-Gly]* (**3d**)

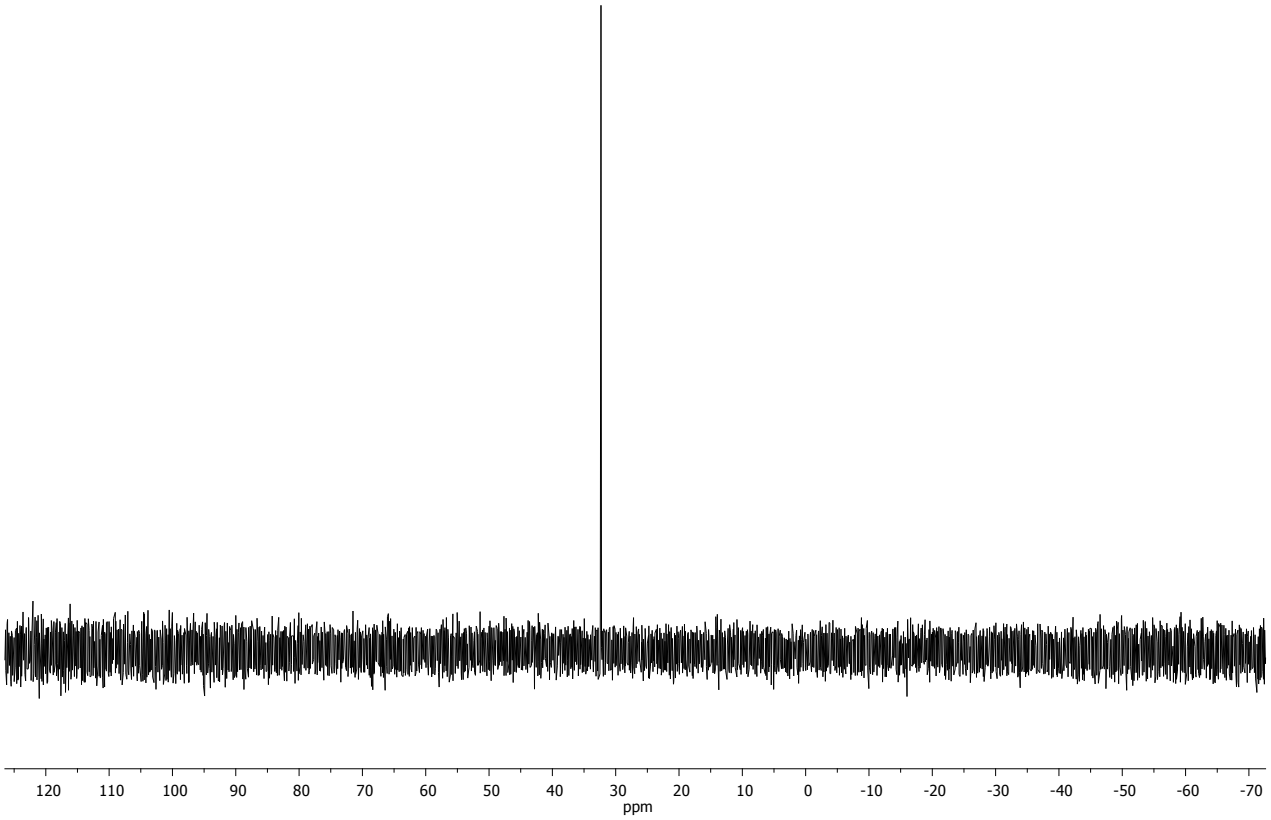




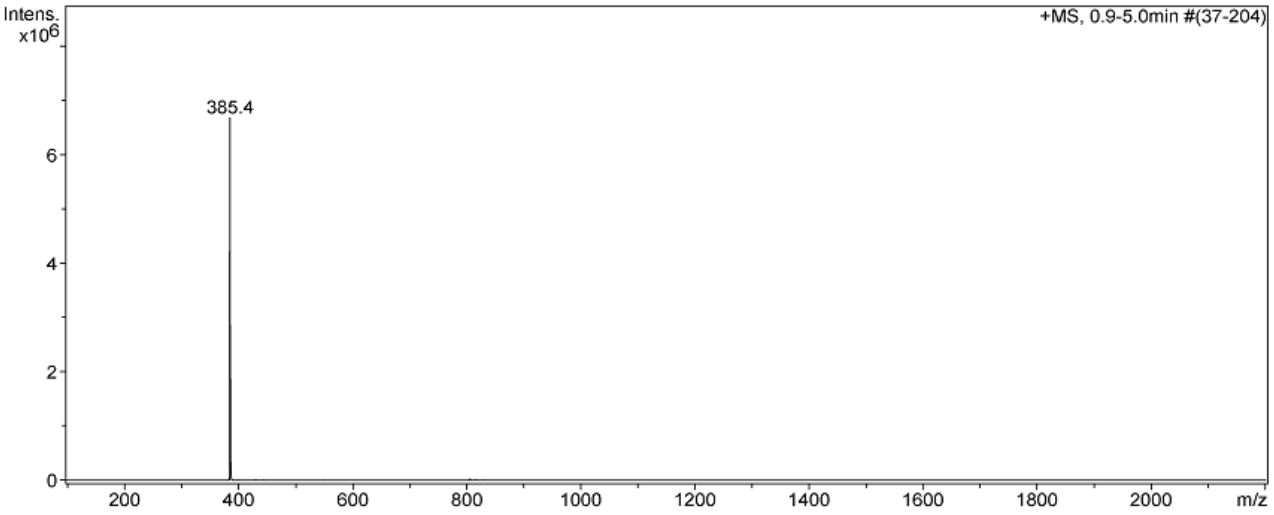

$^1$H NMR (400 MHz, 298 K, $CDCl_3$) δ 8.52 (d, *J* = 8.5 Hz, 1H), 8.34 (d, *J* = 8.7 Hz, 1H), 8.22 (dd, *J* = 7.3, 1.1 Hz, 1H), 7.60 – 7.54 (m, 1H), 7.50 (dd, *J* = 8.5, 7.4 Hz, 1H), 7.17 (d, *J* = 7.6 Hz, 1H), 3.65 (d, *J* = 3.9 Hz, 2H), 3.53 (s, 2H), 2.87 (s, 6H), 2.36 – 2.22 (m, 6H), 2.01 (d, *J* = 13.5 Hz, 3H), 1.60 – 1.38 (m, 13H), 1.25 (t, *J* = 9.7 Hz, 27H), 0.87 (t, *J* = 6.8 Hz, 9H).



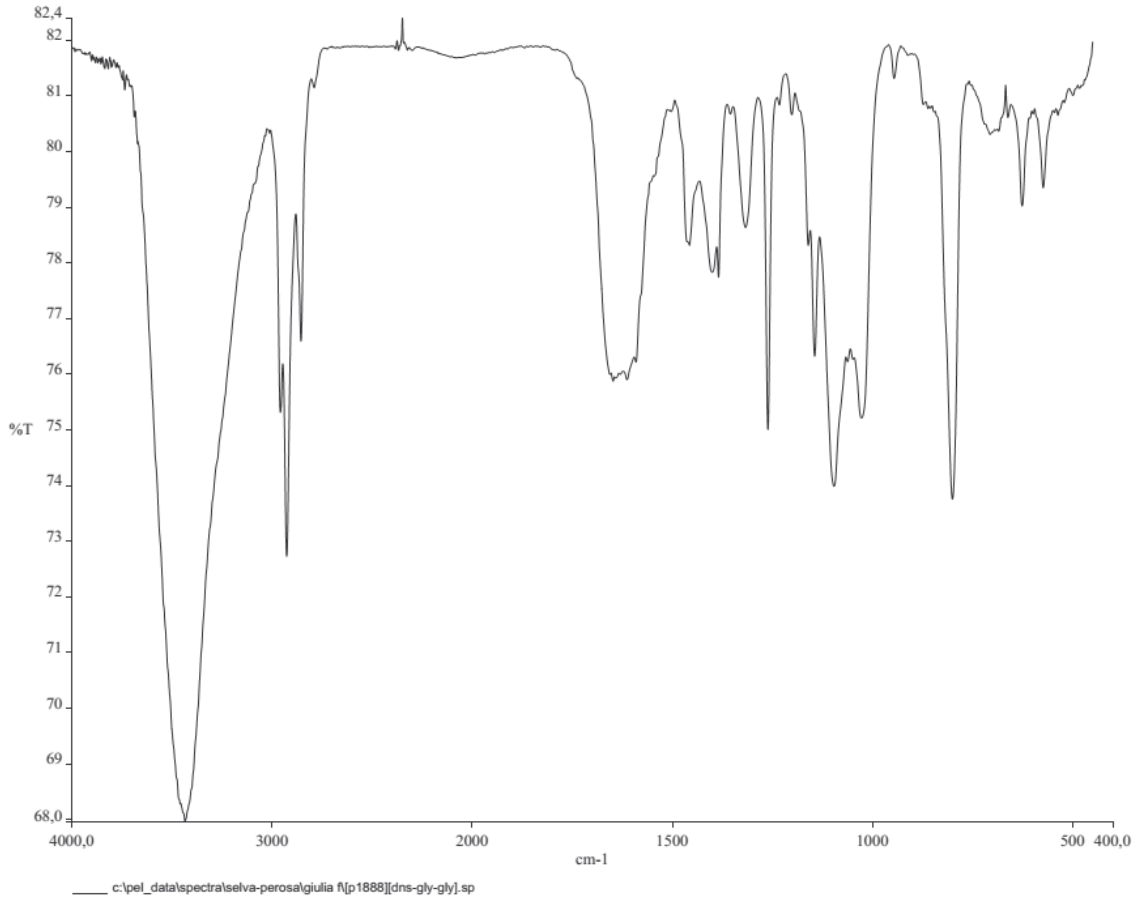

$^{13}$C NMR (50 MHz, 298 K, $CDCl_3$) δ: 172.88 (-$\underline{C}O_2H$), 167.54 (-HN($\underline{C}O$)-), 151.67(C-5 DNS), 134.84 (C-1 DNS), 130.12 (C-9 DNS), 129.81 (C-4 DNS), 129.59 (C-7 DNS), 129.03 (C-3 DNS), 128.40 (C-2 DNS), 123.10 (C-8 DNS), 119.16 (C-10 DNS), 115.20 (C-6 DNS),46.03 ($SO_2NH$-$\underline{C}H_2$) 45.35 (-N($\underline{C}H_3)_2$), 31.61 (C-6 [$P_{1888}$]), 30.71 (C-5 [$P_{1888}$]), 30.41 (C-4 [$P_{1888}$]), 28.86 (-$\underline{C}H_2CO_2^-$), 22.50 (C-3 [$P_{1888}$]), 21.48 (d, C-2 [$P_{1888}$]), 20.53 (C-7 [$P_{1888}$]), 19.56 (t, C-1 [$P_{1888}$]), 13.98 (C-8 [$P_{1888}$]), 4.92-3.88 (-$\underline{C}H_3$ [$P_{1888}$]).



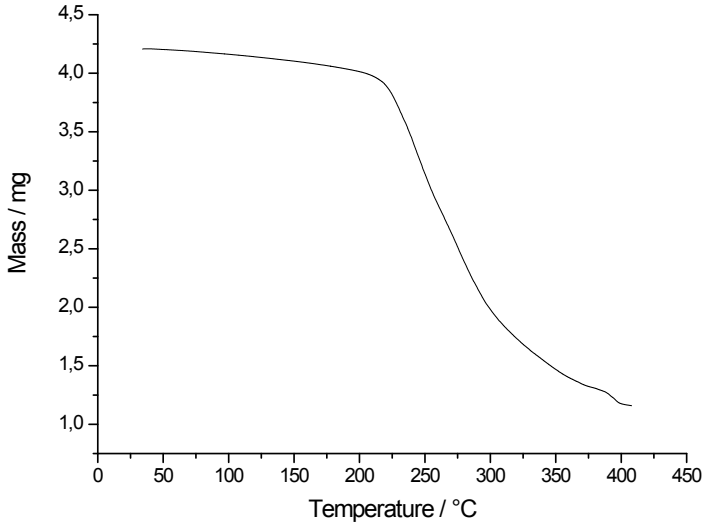

$^{31}P$ NMR (811 MHz, 298 K, $CDCl_3$) δ: 32.24.




ESI-MS (FIA, $CH_3CN$): 385 ($[P_{1888}]^+$); 364 ($[C_{16}H_{18}N_3O_5S]^-$).




IR (KBr): 3440 (w), 2955 (m), 2920 (m), 2850 (sh), 1635 (b), 1265 (sh), 1105, 1025 (m), 795 (sh).




TGA