

**Discovery of Cisplatin Binding to Thymine and Cytosine on a  
Single-stranded Oligodeoxynucleotide by High Resolution FT-ICR  
Mass Spectrometry**

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**Table S1.** Full MS peak assignments of ODN15 for Figure 1a. Red-highlighted species were used for the internal calibration.

5' HO-CCTTCTTGCTTCCTCC-OH 3' (ODN15, C <sub>143</sub> H <sub>188</sub> N <sub>40</sub> O <sub>95</sub> P <sub>14</sub> )	Observed m/z	Exact m/z	Mass error/ ppm
[ODN15 - 3H] <sup>3-</sup>	1472.24136	1472.241555	-0.13
[ODN15 - 4H] <sup>4-</sup>	1103.92967	1103.929347	0.29
[ODN15 - 5H] <sup>5-</sup>	882.94202	882.942022	0.00
[ODN15 - 6H] <sup>6-</sup>	735.61733	735.617139	0.26

**Table S2.** Full MS peak assignments of the reaction mixture of ODN15 with cisplatin for Figure 1b. Red-highlighted species were used for the internal calibration.

	Observed m/z	Exact m/z	Mass error/ ppm
[ODN15 + 2Pt(NH <sub>3</sub> ) <sub>2</sub> - 7H] <sup>3-</sup>	1623.90939	1623.910057	-0.41
[ODN15 + 1Pt(NH <sub>3</sub> ) <sub>2</sub> - 5H] <sup>3-</sup>	1548.24333	1548.242972	0.23
[ODN15 - 3H] <sup>3-</sup>	1472.24262	1472.241555	0.72
[ODN15 + 2Pt(NH <sub>3</sub> ) <sub>2</sub> - 8H] <sup>4-</sup>	1217.68075	1217.680724	0.02
[ODN15 + 1Pt(NH <sub>3</sub> ) <sub>2</sub> - 6H] <sup>4-</sup>	1160.92891	1160.930410	-1.29
[ODN15 - 4H] <sup>4-</sup>	1103.93047	1103.929347	1.02
[ODN15 + 2Pt(NH <sub>3</sub> ) <sub>2</sub> - 9H] <sup>5-</sup>	973.94292	973.943124	-0.21
[ODN15 + 1Pt(NH <sub>3</sub> ) <sub>2</sub> - 7H] <sup>5-</sup>	928.54282	928.542873	-0.06
[ODN15 - 5H] <sup>5-</sup>	882.94279	882.942022	0.87
[ODN15 + 1Pt(NH <sub>3</sub> ) <sub>2</sub> - 8H] <sup>6-</sup>	773.61994	773.617848	2.70
[ODN15 - 6H] <sup>6-</sup>	735.61969	735.617139	3.46

**Table S3.** CID MS/MS fragments assignment of [ODN15 - 5H]<sup>5-</sup> for Figure S1a. Red-highlighted species were used for the internal calibration.

Fragment	Observed m/z	Exact m/z	Mass error/ ppm	Chemical formula of neutral fragment
[w1] <sup>-</sup>	306.04966	306.049660	0.00	C <sub>9</sub> H <sub>14</sub> N <sub>3</sub> O <sub>7</sub> P
[w2] <sup>-</sup>	595.09650	595.096032	0.79	C <sub>18</sub> H <sub>26</sub> N <sub>6</sub> O <sub>13</sub> P <sub>2</sub>
[w3] <sup>-</sup>	899.14180	899.142069	-0.30	C <sub>28</sub> H <sub>39</sub> N <sub>8</sub> O <sub>20</sub> P <sub>3</sub>
[w3] <sup>2-</sup>	449.06751	449.067397	0.25	C <sub>28</sub> H <sub>39</sub> N <sub>8</sub> O <sub>20</sub> P <sub>3</sub>
[w4] <sup>-</sup>	1188.18895	1188.18844	0.43	C <sub>37</sub> H <sub>51</sub> N <sub>11</sub> O <sub>26</sub> P <sub>4</sub>
[w4] <sup>2-</sup>	593.59108	593.590583	0.84	C <sub>37</sub> H <sub>51</sub> N <sub>11</sub> O <sub>26</sub> P <sub>4</sub>
[w5] <sup>2-</sup>	745.61421	745.613601	0.82	C <sub>47</sub> H <sub>64</sub> N <sub>13</sub> O <sub>33</sub> P <sub>5</sub>
[w6] <sup>2-</sup>	897.63694	897.636620	0.36	C <sub>57</sub> H <sub>77</sub> N <sub>15</sub> O <sub>40</sub> P <sub>6</sub>
[w6] <sup>3-</sup>	598.08880	598.088654	0.24	C <sub>57</sub> H <sub>77</sub> N <sub>15</sub> O <sub>40</sub> P <sub>6</sub>
[w7] <sup>2-</sup>	1042.15903	1042.15981	-0.74	C <sub>66</sub> H <sub>89</sub> N <sub>18</sub> O <sub>46</sub> P <sub>7</sub>
[w7] <sup>3-</sup>	694.43766	694.437445	0.31	C <sub>66</sub> H <sub>89</sub> N <sub>18</sub> O <sub>46</sub> P <sub>7</sub>
[w8] <sup>3-</sup>	804.12195	804.121618	0.41	C <sub>76</sub> H <sub>101</sub> N <sub>23</sub> O <sub>52</sub> P <sub>8</sub>
[w9] <sup>4-</sup>	678.85154	678.850904	0.94	C <sub>86</sub> H <sub>114</sub> N <sub>25</sub> O <sub>59</sub> P <sub>9</sub>

[w9] <sup>3-</sup>	905.46996	905.470297	-0.37	C86H114N25O59P9
[w10] <sup>4-</sup>	754.86246	754.862413	0.06	C96H127N27O66P10
[w11] <sup>4-</sup>	827.12432	827.124006	0.38	C105H139N30O72P11
[w12] <sup>4-</sup>	903.13541	903.135516	-0.12	C115H152N32O79P12
[w13] <sup>4-</sup>	979.14746	979.147025	0.44	C125H165N34O86P13
[w13] <sup>5-</sup>	783.11687	783.116165	0.90	C125H165N34O86P13
[a2 - C5] <sup>-</sup>	386.07598	386.075875	0.27	C14H18N3O8P
[a3 - T3] <sup>-</sup>	675.12276	675.122247	0.76	C23H30N6O14P2
[a4] <sup>-</sup>	1105.21176	1105.211210	0.50	C38H49N10O23P3
[a5 - C5] <sup>-</sup>	1283.21464	1283.214320	0.25	C43H56N10O28P4
[a5 - C5] <sup>2-</sup>	641.10360	641.103523	0.12	C43H56N10O28P4
[a5] <sup>-</sup>	1394.25907	1394.257580	1.07	C47H61N13O29P4
[a6] <sup>2-</sup>	848.64911	848.648172	1.10	C57H74N15O36P5
[a7 - T7] <sup>2-</sup>	937.64974	937.649727	0.01	C62H81N15O41P6
[a8 - G8] <sup>3-</sup>	726.11292	726.112739	0.25	C72H94N17O48P7
[a8 - G8] <sup>2-</sup>	1089.67270	1089.672750	-0.04	C72H94N17O48P7
[a8] <sup>2-</sup>	1165.19639	1165.197450	-0.91	C77H99N22O49P7
[a9 - C9] <sup>3-</sup>	835.79744	835.796912	0.63	C82H106N22O54P8
[a9 - C9] <sup>2-</sup>	1254.19810	1254.199010	-0.72	C82H106N22O54P8
[a12 - C12] <sup>3-</sup>	1134.84408	1134.843060	0.90	C111H144N29O74P11
[a12 - C12] <sup>4-</sup>	850.88101	850.880476	0.63	C111H144N29O74P11
[a14 - C12] <sup>4-</sup>	999.15333	999.153579	-0.25	C130H169N34O87P13
[T3: T4 or T6: T7 or T10: T11] <sup>-</sup>	785.08769	785.087908	-0.28	C25H33N4O19P3
[T6: G8] <sup>2-</sup>	556.56698	556.566576	0.72	C35H45N9O25P4
[T6: G8] <sup>-</sup>	1114.14052	1114.140430	0.08	C35H45N9O25P4
[C2: T7] <sup>3-</sup>	656.41951	656.419391	0.18	C63H83N14O45P7
[C2: T7] <sup>2-</sup>	985.13319	985.132725	0.47	C63H83N14O45P7
[T3: T7] <sup>2-</sup>	840.60936	840.609540	-0.21	C54H71N11O39P6
[T3: T7] <sup>-</sup>	1682.22732	1682.226360	0.57	C54H71N11O39P6
[C2: T6 or C9: T13 or T10: C14] <sup>2-</sup>	833.10982	833.109707	0.14	C53H70N12O38P6
[C2: T6 or C9: T13 or T10: C14] <sup>-</sup>	1667.22835	1667.226690	1.00	C53H70N12O38P6

**Table S4.** CID MS/MS fragments assignment of [ODN15 + Pt(NH<sub>3</sub>)<sub>2</sub> - 7H]<sup>5-</sup> for Figure 3. Red-highlighted species were used for the internal calibration.

Fragment	Observed m/z	Exact m/z	Mass error/ ppm	Chemical formula of neutral fragment
[w7 + Pt] <sup>3-</sup>	759.08848	759.087344	1.49	C66H87N18O46P7Pt
[w7 + Pt(NH <sub>3</sub> )] <sup>3-</sup>	764.76398	764.762859	1.46	C66H90N19O46P7Pt
[w7 + Pt(NH <sub>3</sub> ) <sub>2</sub> ] <sup>3-</sup>	770.43957	770.4383743	1.55	C66H93N20O46P7Pt

[w7 + Pt] <sup>2-</sup>	1139.1367	1139.134654	1.79	C66H87N18O46P7Pt
[w7 + Pt(NH <sub>3</sub> )] <sup>2-</sup>	1147.64902	1147.647927	0.95	C66H90N19O46P7Pt
[w7 + Pt(NH <sub>3</sub> ) <sub>2</sub> ] <sup>2-</sup>	1156.16248	1156.1612	1.11	C66H93N20O46P7Pt
[a8 - G8 + Pt] <sup>3-</sup>	790.76357	790.7634657	0.13	C72H92N17O48P7Pt
[a8 - G8 + Pt(NH <sub>3</sub> )] <sup>3-</sup>	796.43932	796.438981	0.43	C72H95N18O48P7Pt
[a8 - G8 + Pt(NH <sub>3</sub> ) <sub>2</sub> ] <sup>3-</sup>	802.11504	802.1144963	0.68	C72H98N19O48P7Pt
[a8 - G8 + Pt] <sup>2-</sup>	1186.64877	1186.648837	-0.06	C72H92N17O48P7Pt
[a8 - G8 + Pt(NH <sub>3</sub> )] <sup>2-</sup>	1195.16194	1195.16211	-0.14	C72H95N18O48P7Pt
[a8 - G8 + Pt(NH <sub>3</sub> ) <sub>2</sub> ] <sup>2-</sup>	1203.67438	1203.675383	-0.83	C72H98N19O48P7Pt
[w10 + Pt] <sup>4-</sup>	803.35116	803.350266	1.11	C96H125N27O66P10Pt
[w10 + Pt(NH <sub>3</sub> )] <sup>4-</sup>	807.60749	807.6069	0.73	C96H128N28O66P10Pt
[w10 + Pt(NH <sub>3</sub> ) <sub>2</sub> ] <sup>4-</sup>	811.8643	811.863534	0.94	C96H131N29O66P10Pt
[w10 + Pt] <sup>3-</sup>	1071.46945	1071.469447	0.00	C96H125N27O66P10Pt
[w10 + Pt(NH <sub>3</sub> )] <sup>3-</sup>	1077.14567	1077.144959	0.66	C96H128N28O66P10Pt
[w10 + Pt(NH <sub>3</sub> ) <sub>2</sub> ] <sup>3-</sup>	1082.82142	1082.820471	0.88	C96H131N29O66P10Pt
[w13 + Pt(NH <sub>3</sub> )] <sup>5-</sup>	825.31257	825.311805	0.93	C125H166N35O86P13Pt
[w13 + Pt(NH <sub>3</sub> ) <sub>2</sub> ] <sup>5-</sup>	828.71791	828.7171124	0.96	C125H169N36O86P13Pt
[w13 + Pt] <sup>4-</sup>	1027.63449	1027.634941	-0.44	C125H163N34O86P13Pt
[w13 + Pt(NH <sub>3</sub> )] <sup>4-</sup>	1031.89221	1031.891575	0.61	C125H166N35O86P13Pt
[w13 + Pt(NH <sub>3</sub> ) <sub>2</sub> ] <sup>4-</sup>	1036.1491	1036.14821	0.86	C125H169N36O86P13Pt
[a8 + Pt] <sup>3-</sup>	840.77967	840.77904	0.75	C77H97N22O49P7Pt
[a8 + Pt(NH <sub>3</sub> )] <sup>3-</sup>	846.78947	846.7887857	0.81	C77H100N23O49P7Pt
[a8 + Pt(NH <sub>3</sub> ) <sub>2</sub> ] <sup>3-</sup>	852.46488	852.464301	0.68	C77H103N24O49P7Pt
[a8 + Pt(NH <sub>3</sub> )] <sup>2-</sup>	1270.68536	1270.686817	-1.15	C77H100N23O49P7Pt
[a8 + Pt(NH <sub>3</sub> ) <sub>2</sub> ] <sup>2-</sup>	1279.19885	1279.20009	-0.97	C77H103N24O49P7Pt
[w14 + Pt] <sup>5-</sup>	879.71657	879.7157826	0.89	C134H175N37O92P14Pt
[w14 + Pt(NH <sub>3</sub> )] <sup>5-</sup>	883.12161	883.1210902	0.59	C134H178N38O92P14Pt
[w14 + Pt(NH <sub>3</sub> ) <sub>2</sub> ] <sup>5-</sup>	886.52753	886.5263976	1.28	C134H181N39O92P14Pt
[ODN15 + Pt(NH <sub>3</sub> ) - G8] <sup>5-</sup>	894.72829	894.7272292	1.18	C138H184N36O94P14Pt
[ODN15 + Pt - C] <sup>5-</sup>	899.32379	899.323148	0.71	C139H181N37O94P14Pt
[ODN15 + Pt(NH <sub>3</sub> ) - C] <sup>5-</sup>	902.72903	902.7284556	0.64	C139H184N38O94P14Pt
[ODN15 + Pt(NH <sub>3</sub> ) <sub>2</sub> - C] <sup>5-</sup>	906.13434	906.1337632	0.64	C139H187N39O94P14Pt
[ODN15 + Pt] <sup>5-</sup>	921.73289	921.7322602	0.68	C143H186N40O95P14Pt
[ODN15 + Pt(NH <sub>3</sub> )] <sup>5-</sup>	925.13772	925.1375664	0.17	C143H189N41O95P14Pt
[ODN15 + Pt(NH <sub>3</sub> ) <sub>2</sub> ] <sup>5-</sup>	928.54361	928.5428726	0.79	C143H192N42O95P14Pt
<span style="color:red">[a9 - C9 + Pt(NH<sub>3</sub>)]<sup>3-</sup></span>	<span style="color:red">906.12358</span>	<span style="color:red">906.1231627</span>	<span style="color:red">0.46</span>	<span style="color:red">C82H107N23O54P8Pt</span>
[a9 - C9 + Pt(NH <sub>3</sub> ) <sub>2</sub> ] <sup>3-</sup>	911.79942	911.7986783	0.81	C82H110N24O54P8Pt
[a9 - C9 + Pt] <sup>2-</sup>	1351.17528	1351.175109	0.13	C82H104N22O54P8Pt
[a9 - C9 + Pt(NH <sub>3</sub> )] <sup>2-</sup>	1359.68805	1359.688382	-0.24	C82H107N23O54P8Pt
[a9 - C9 + Pt(NH <sub>3</sub> ) <sub>2</sub> ] <sup>2-</sup>	1368.20063	1368.201656	-0.75	C82H110N24O54P8Pt
[a9 + Pt] <sup>3-</sup>	937.46244	937.46207	0.39	C86H109N25O55P8Pt
[a9 + Pt(NH <sub>3</sub> )] <sup>3-</sup>	943.13757	943.1375857	-0.02	C86H112N26O55P8Pt
[a9 + Pt(NH <sub>3</sub> ) <sub>2</sub> ] <sup>3-</sup>	948.81376	948.813101	0.69	C86H115N27O55P8Pt

[w6 + Pt] <sup>2-</sup>	994.61317	994.611457	1.72	C57H75N15O40P6Pt
[w6 + Pt(NH <sub>3</sub> )] <sup>2-</sup>	1003.12584	1003.12473	1.11	C57H78N16O40P6Pt
[a14 - C14 + Pt] <sup>4-</sup>	1047.64331	1047.641507	1.72	C130H167N34O87P13Pt
[a14 - C14 + Pt(NH <sub>3</sub> )] <sup>4-</sup>	1051.89936	1051.898142	1.16	C130H170N35O87P13Pt
[a14 - C14 + Pt(NH <sub>3</sub> ) <sub>2</sub> ] <sup>4-</sup>	1056.15637	1056.154776	1.51	C130H173N36O87P13Pt
[a12 - C12 + Pt] <sup>3-</sup>	1199.49403	1199.493584	0.37	C111H142N29O74P11Pt
<b>[a12 - C12 + Pt(NH<sub>3</sub>)]<sup>3-</sup></b>	<b>1205.16828</b>	<b>1205.169097</b>	<b>-0.68</b>	<b>C111H145N30O74P11Pt</b>
[a12 - C12 + Pt(NH <sub>3</sub> ) <sub>2</sub> ] <sup>3-</sup>	1210.84412	1210.844609	-0.40	C111H148N31O74P11Pt
[a12 - C12 + Pt(NH <sub>3</sub> )] <sup>4-</sup>	903.62564	903.6250035	0.70	C111H145N30O74P11Pt
[a12 - C12 + Pt(NH <sub>3</sub> ) <sub>2</sub> ] <sup>4-</sup>	907.88211	907.8816375	0.52	C111H148N31O74P11Pt
[T6: G8 + Pt(NH <sub>3</sub> )] <sup>-</sup>	1324.1156	1324.116325	-0.55	C35H46N10O25P4Pt
[T6: G8 + Pt(NH <sub>3</sub> ) <sub>2</sub> ] <sup>-</sup>	1341.14373	1341.142861	0.65	C35H49N11O25P4Pt
[a5 - C5 + Pt] <sup>-</sup>	1476.16467	1476.16373	0.64	C43H54N10O28P4Pt
<b>[a5 - C5 + Pt(NH<sub>3</sub>)]<sup>-</sup></b>	<b>1493.19076</b>	<b>1493.190267</b>	<b>0.33</b>	<b>C43H57N11O28P4Pt</b>
[a5 - C5 + Pt(NH <sub>3</sub> ) <sub>2</sub> ] <sup>-</sup>	1510.21711	1510.216804	0.20	C43H60N12O28P4Pt
[a5 + Pt] <sup>-</sup>	1587.20856	1587.206982	0.99	C47H59N13O29P4Pt
[a5 + Pt(NH <sub>3</sub> )] <sup>-</sup>	1604.23226	1604.23352	-0.78	C47H62N14O29P4Pt
[w14 - C + Pt(NH <sub>3</sub> )] <sup>5-</sup>	860.91327	860.9124374	0.97	C130H173N35O91P14Pt
[w14 - C + Pt(NH <sub>3</sub> ) <sub>2</sub> ] <sup>5-</sup>	864.31809	864.3177448	0.40	C130H176N36O91P14Pt
[a9 - C9 - C + Pt] <sup>2-</sup>	1295.6523	1295.653475	-0.91	C78H99N19O53P8Pt
[a9 - C9 - C + Pt(NH <sub>3</sub> )] <sup>2-</sup>	1304.16614	1304.166748	-0.47	C78H102N20O53P8Pt
[a9 - C9 - C + Pt(NH <sub>3</sub> ) <sub>2</sub> ] <sup>2-</sup>	1312.67988	1312.680022	-0.11	C78H105N21O53P8Pt
[C2: G8 + Pt(NH <sub>3</sub> )] <sup>3-</sup>	836.43043	836.4298067	0.74	C73H96N20O51P8Pt
[C2: G8 + Pt] <sup>2-</sup>	1246.63411	1246.635075	-0.77	C73H93N19O51P8Pt
[C2: G8 + Pt(NH <sub>3</sub> )] <sup>2-</sup>	1255.14711	1255.148348	-0.99	C73H96N20O51P8Pt
[C2: G8 + Pt(NH <sub>3</sub> ) <sub>2</sub> ] <sup>2-</sup>	1263.66057	1263.661622	-0.83	C73H99N21O51P8Pt
[C2: T7 + Pt] <sup>2-</sup>	1082.10928	1082.107576	1.57	C63H81N14O45P7Pt
[C2: T7 + Pt(NH <sub>3</sub> )] <sup>2-</sup>	1090.62237	1090.620849	1.39	C63H84N15O45P7Pt
[C2: T7 + Pt(NH <sub>3</sub> ) <sub>2</sub> ] <sup>2-</sup>	1099.13529	1099.134122	1.06	C63H87N16O45P7Pt
[T3: G8 + Pt] <sup>2-</sup>	1102.11104	1102.110648	0.36	C64H81N16O45P7Pt
[T3: G8 + Pt(NH <sub>3</sub> )] <sup>2-</sup>	1110.62522	1110.623921	1.17	C64H84N17O45P7Pt
[T3: G8 + Pt(NH <sub>3</sub> ) <sub>2</sub> ] <sup>2-</sup>	1119.13879	1119.137193	1.43	C64H87N18O45P7Pt
[C2: T11 + Pt] <sup>3-</sup>	1129.80041	1129.800215	0.17	C102H131N26O71P11Pt
[C2: T11 + Pt(NH <sub>3</sub> )] <sup>3-</sup>	1135.47679	1135.475727	0.94	C102H134N27O71P11Pt
[w2] <sup>-</sup>	595.09644	595.096032	0.68	C18H26N6O13P2
[w3] <sup>-</sup>	899.14198	899.142069	-0.10	C28H39N8O20P3
<b>[w3]<sup>2-</sup></b>	<b>449.0674</b>	<b>449.0673965</b>	<b>0.01</b>	<b>C28H39N8O20P3</b>
[w4] <sup>-</sup>	1188.19246	1188.188441	3.38	C37H51N11O26P4
[w4] <sup>2-</sup>	593.59109	593.5905825	0.85	C37H51N11O26P4
[w5] <sup>2-</sup>	745.61429	745.613601	0.92	C47H64N13O33P5
[w6] <sup>2-</sup>	897.63717	897.6366195	0.61	C57H77N15O40P6
[w6] <sup>3-</sup>	598.0888	598.0886543	0.24	C57H77N15O40P6
<b>[w7]<sup>2-</sup></b>	<b>1042.15992</b>	<b>1042.159806</b>	<b>0.11</b>	<b>C66H89N18O46P7</b>

[w7] <sup>3-</sup>	694.43799	694.437445	0.78	C66H89N18O46P7
[w8] <sup>3-</sup>	804.12222	804.1216183	0.75	C76H101N23O52P8
[w10] <sup>4-</sup>	754.86278	754.8624133	0.49	C96H127N27O66P10
[a3 - T3] <sup>-</sup>	675.12285	675.122247	0.89	C23H30N6O14P2
[a5 - C5] <sup>-</sup>	1283.21455	1283.214321	0.18	C43H56N10O28P4
[a5 - C5] <sup>2-</sup>	641.10372	641.1035225	0.31	C43H56N10O28P4
[a7 - T7] <sup>2-</sup>	937.65014	937.649727	0.44	C62H81N15O41P6
[a8 - G8] <sup>3-</sup>	726.11321	726.1127387	0.65	C72H94N17O48P7
[a8 - G8] <sup>2-</sup>	1089.67292	1089.672746	0.16	C72H94N17O48P7
[a9 - C9] <sup>3-</sup>	835.79775	835.7969117	1.00	C82H106N22O54P8
[a9 - C9] <sup>2-</sup>	1254.19796	1254.199006	-0.83	C82H106N22O54P8
[a12 - C12] <sup>4-</sup>	850.88123	850.8804763	0.88	C111H144N29O74P11
[T3: T4 or T6: T7 or T10: T11] <sup>-</sup>	785.08774	785.087908	-0.21	C25H33N4O19P3
[C2: T6] <sup>2-</sup>	833.11013	833.1097065	0.51	C53H70N12O38P6
[T3: T7] <sup>2-</sup>	840.60979	840.6095395	0.30	C54H71N11O39P6
[a6] <sup>2-</sup>	848.64886	848.648172	0.81	C57H74N15O36P5
[y6] <sup>2-</sup>	857.65402	857.6534545	0.66	C57H76N15O37P5
[C2: T7] <sup>3-</sup>	656.41981	656.4193913	0.64	C63H83N14O45P7
[C2: T7] <sup>2-</sup>	985.13372	985.132725	1.01	C63H83N14O45P7
[y7] <sup>2-</sup>	1002.17713	1002.176641	0.49	C66H88N18O43P6
[a4] <sup>-</sup>	1105.21191	1105.211211	0.63	C38H49N10O23P3
[C2: T4 or C9: T11 or T11: T13] <sup>-</sup>	1074.13391	1074.13428	-0.34	C34H45N7O25P4
[C2: T4 or C9: T11 or T11: T13] <sup>2-</sup>	536.56389	536.563502	0.72	C34H45N7O25P4
[T3: T6 or T4: T7 or T10: T13] <sup>2-</sup>	688.58713	688.5865205	0.88	C44H58N9O32P5
[T3: T6 or T4: T7 or T10: T13] <sup>-</sup>	1378.17878	1378.180317	-1.11	C44H58N9O32P5
[a5] <sup>-</sup>	1394.25756	1394.257583	-0.02	C47H61N13O29P4
[y3] <sup>-</sup>	819.1764	819.175739	0.81	C28H38N8O17P2

**Table S5.** CID MS/MS fragments assignment of [ODN15 + 2Pt(NH<sub>3</sub>)<sub>2</sub> - 9H]<sup>5-</sup> for Figure 5. Red-highlighted species were used for the internal calibration.

Fragment	Observed m/z	Exact m/z	Mass error/ ppm	Chemical formula of neutral fragment
[w6 + Pt] <sup>3-</sup>	662.73951	662.738546	1.45	C57H75N15O40P6Pt
[w6 + Pt(NH <sub>3</sub> )] <sup>3-</sup>	668.41467	668.4140613	0.91	C57H78N16O40P6Pt
[w6 + Pt] <sup>2-</sup>	994.61232	994.611457	0.87	C57H75N15O40P6Pt
[w6 + Pt(NH <sub>3</sub> )] <sup>2-</sup>	1003.1251	1003.12473	0.37	C57H78N16O40P6Pt

[w7 + Pt] <sup>3-</sup>	759.08836	759.087344	1.34	C66H87N18O46P7Pt
[w7 + Pt(NH <sub>3</sub> )] <sup>3-</sup>	764.76361	764.762859	0.98	C66H90N19O46P7Pt
[w7 + Pt(NH <sub>3</sub> ) <sub>2</sub> ] <sup>3-</sup>	770.43911	770.4383743	0.95	C66H93N20O46P7Pt
[w7 + Pt] <sup>2-</sup>	1139.13496	1139.134654	0.27	C66H87N18O46P7Pt
[w7 + Pt(NH <sub>3</sub> )] <sup>2-</sup>	1147.64834	1147.647927	0.36	C66H90N19O46P7Pt
[w7 + Pt(NH <sub>3</sub> ) <sub>2</sub> ] <sup>2-</sup>	1156.16167	1156.161200	0.41	C66H93N20O46P7Pt
[a8 - G8 + Pt] <sup>3-</sup>	790.76328	790.7634657	-0.23	C72H92N17O48P7Pt
[a8 - G8 + Pt(NH <sub>3</sub> )] <sup>3-</sup>	796.43894	796.438981	-0.05	C72H95N18O48P7Pt
[a8 - G8 + Pt(NH <sub>3</sub> ) <sub>2</sub> ] <sup>3-</sup>	802.11458	802.1144963	0.10	C72H98N19O48P7Pt
[a8 - G8 + Pt] <sup>2-</sup>	1186.64828	1186.648837	-0.47	C72H92N17O48P7Pt
<b>[a8 - G8 + Pt(NH<sub>3</sub>)]<sup>2-</sup></b>	<b>1195.16139</b>	<b>1195.16211</b>	<b>-0.60</b>	<b>C72H95N18O48P7Pt</b>
[a8 - G8 + Pt(NH <sub>3</sub> ) <sub>2</sub> ] <sup>2-</sup>	1203.67385	1203.675383	-1.27	C72H98N19O48P7Pt
[w10 + Pt] <sup>4-</sup>	803.35077	803.350266	0.63	C96H125N27O66P10Pt
[w10 + Pt(NH <sub>3</sub> )] <sup>4-</sup>	807.60724	807.6069	0.42	C96H128N28O66P10Pt
[w10 + Pt(NH <sub>3</sub> ) <sub>2</sub> ] <sup>4-</sup>	811.86409	811.863534	0.68	C96H131N29O66P10Pt
[a8 + Pt(NH <sub>3</sub> )] <sup>3-</sup>	846.78905	846.7887857	0.31	C77H100N23O49P7Pt
[a8 + Pt(NH <sub>3</sub> ) <sub>2</sub> ] <sup>3-</sup>	852.46456	852.464301	0.30	C77H103N24O49P7Pt
[a8 + Pt(NH <sub>3</sub> )] <sup>2-</sup>	1270.68533	1270.686817	-1.17	C77H100N23O49P7Pt
[a8 + Pt(NH <sub>3</sub> ) <sub>2</sub> ] <sup>2-</sup>	1279.19838	1279.20009	-1.34	C77H103N24O49P7Pt
[a5 - C5 + Pt] <sup>2-</sup>	737.57866	737.578227	0.59	C43H54N10O28P4Pt
[a5 - C5 + Pt] <sup>-</sup>	1476.16366	1476.16373	-0.05	C43H54N10O28P4Pt
<b>[a5 - C5 + Pt(NH<sub>3</sub>)]<sup>-</sup></b>	<b>1493.1902</b>	<b>1493.190267</b>	<b>-0.04</b>	<b>C43H57N11O28P4Pt</b>
[a5 + Pt] <sup>-</sup>	1587.20792	1587.206982	0.59	C47H59N13O29P4Pt
[a5 + Pt(NH <sub>3</sub> )] <sup>-</sup>	1604.23204	1604.23352	-0.92	C47H62N14O29P4Pt
[C2: G8 + Pt(NH <sub>3</sub> )] <sup>3-</sup>	836.42961	836.4298067	-0.23	C73H96N20O51P8Pt
[C2: T7 + Pt] <sup>2-</sup>	1082.10797	1082.107576	0.36	C63H81N14O45P7Pt
[C2: T7 + Pt(NH <sub>3</sub> )] <sup>2-</sup>	1090.6218	1090.620849	0.87	C63H84N15O45P7Pt
[C2: T7 + Pt(NH <sub>3</sub> ) <sub>2</sub> ] <sup>2-</sup>	1099.13378	1099.134122	-0.31	C63H87N16O45P7Pt
[T3: G8 + Pt] <sup>2-</sup>	1102.11075	1102.110648	0.09	C64H81N16O45P7Pt
[T3: G8 + Pt(NH <sub>3</sub> )] <sup>2-</sup>	1110.62419	1110.623921	0.24	C64H84N17O45P7Pt
[T3: G8 + Pt(NH <sub>3</sub> ) <sub>2</sub> ] <sup>2-</sup>	1119.1376	1119.137193	0.36	C64H87N18O45P7Pt
[w14 + 2Pt(NH <sub>3</sub> ) <sub>2</sub> - 4NH <sub>3</sub> ] <sup>5-</sup>	918.50657	918.5058694	0.76	C134H173N37O92P14Pt2
[w14 + 2Pt(NH <sub>3</sub> ) <sub>2</sub> - 3NH <sub>3</sub> ] <sup>5-</sup>	921.91135	921.9111762	0.19	C134H176N38O92P14Pt2
[w14 + 2Pt(NH <sub>3</sub> ) <sub>2</sub> - 2NH <sub>3</sub> ] <sup>5-</sup>	925.31668	925.3164828	0.21	C134H179N39O92P14Pt2
[w14 + 2Pt(NH <sub>3</sub> ) <sub>2</sub> - 1NH <sub>3</sub> ] <sup>5-</sup>	928.72235	928.7217894	0.60	C134H182N40O92P14Pt2
[a12 - C12 + 2Pt(NH <sub>3</sub> ) <sub>2</sub> - 3NH <sub>3</sub> ] <sup>4-</sup>	951.86229	951.8621293	0.17	C111H143N30O74P11Pt2
[a12 - C12 + 2Pt(NH <sub>3</sub> ) <sub>2</sub> - 2NH <sub>3</sub> ] <sup>4-</sup>	956.1192	956.118763	0.46	C111H146N31O74P11Pt2
[ODN15 + 2Pt(NH <sub>3</sub> ) <sub>2</sub> - G8 - 3NH <sub>3</sub> ] <sup>5-</sup>	933.51768	933.5173226	0.38	C138H182N36O94P14Pt2
[ODN15 + 2Pt(NH <sub>3</sub> ) <sub>2</sub> - G8 - 2NH <sub>3</sub> ] <sup>5-</sup>	936.92253	936.9226292	-0.11	C138H185N37O94P14Pt2

[ODN15 + 2Pt(NH <sub>3</sub> ) <sub>2</sub> - 4NH <sub>3</sub> ] <sup>5-</sup>	960.32223	960.3218964	0.35	C143H184N40O95P14Pt2
[ODN15 + 2Pt(NH <sub>3</sub> ) <sub>2</sub> - 3NH <sub>3</sub> ] <sup>5-</sup>	963.72756	963.7272032	0.37	C143H187N41O95P14Pt2
[ODN15 + 2Pt(NH <sub>3</sub> ) <sub>2</sub> - 2NH <sub>3</sub> ] <sup>5-</sup>	967.13273	967.13251	0.23	C143H190N42O95P14Pt2
[ODN15 + 2Pt(NH <sub>3</sub> ) <sub>2</sub> - 1NH <sub>3</sub> ] <sup>5-</sup>	970.53788	970.5378168	0.07	C143H193N43O95P14Pt2
[ODN15 + 2Pt(NH <sub>3</sub> ) <sub>2</sub> ] <sup>5-</sup>	973.94306	973.9431236	-0.07	C143H196N44O95P14Pt2
[w13 + 2Pt(NH <sub>3</sub> ) <sub>2</sub> - 3NH <sub>3</sub> ] <sup>4-</sup>	1080.12812	1080.128708	-0.54	C125H164N35O86P13Pt2
[w13 + 2Pt(NH <sub>3</sub> ) <sub>2</sub> - 2NH <sub>3</sub> ] <sup>4-</sup>	1084.38475	1084.385342	-0.55	C125H167N36O86P13Pt2
[w13 + 2Pt(NH <sub>3</sub> ) <sub>2</sub> - 1NH <sub>3</sub> ] <sup>4-</sup>	1088.64156	1088.641977	-0.38	C125H170N37O86P13Pt2
[a14 - C14 + 2Pt(NH <sub>3</sub> ) <sub>2</sub> - 4NH <sub>3</sub> ] <sup>4-</sup>	1096.12968	1096.129111	0.52	C130H165N34O87P13Pt2
[a14 - C14 + 2Pt(NH <sub>3</sub> ) <sub>2</sub> - 3NH <sub>3</sub> ] <sup>4-</sup>	1100.38611	1100.385745	0.33	C130H168N35O87P13Pt2
[a14 - C14 + 2Pt(NH <sub>3</sub> ) <sub>2</sub> - 2NH <sub>3</sub> ] <sup>4-</sup>	1104.6428	1104.642378	0.38	C130H171N36O87P13Pt2
[w10 + 2Pt(NH <sub>3</sub> ) <sub>2</sub> - 3NH <sub>3</sub> ] <sup>3-</sup>	1141.46129	1141.461118	0.15	C96H126N28O66P10Pt2
[w10 + 2Pt(NH <sub>3</sub> ) <sub>2</sub> - 2NH <sub>3</sub> ] <sup>3-</sup>	1147.13523	1147.13663	-1.22	C96H129N29O66P10Pt2
[w10 + 2Pt(NH <sub>3</sub> ) <sub>2</sub> - 1NH <sub>3</sub> ] <sup>3-</sup>	1152.81224	1152.812141	0.09	C96H132N30O66P10Pt2
[w7 + 2Pt(NH <sub>3</sub> ) <sub>2</sub> - 4NH <sub>3</sub> ] <sup>2-</sup>	1235.10838	1235.108645	-0.21	C66H85N18O46P7Pt2
[w7 + 2Pt(NH <sub>3</sub> ) <sub>2</sub> - 3NH <sub>3</sub> ] <sup>2-</sup>	1244.12297	1244.122978	-0.01	C66H88N19O46P7Pt2
[w7 + 2Pt(NH <sub>3</sub> ) <sub>2</sub> - 2NH <sub>3</sub> ] <sup>2-</sup>	1252.63603	1252.636251	-0.18	C66H91N20O46P7Pt2
[a8 - G8 + 2Pt(NH <sub>3</sub> ) <sub>2</sub> - 3NH <sub>3</sub> ] <sup>2-</sup>	1291.63534	1291.635929	-0.46	C72H93N18O48P7Pt2
[a8 - G8 + 2Pt(NH <sub>3</sub> ) <sub>2</sub> - 2NH <sub>3</sub> ] <sup>2-</sup>	1300.14868	1300.149202	-0.40	C72H96N19O48P7Pt2
[a8 - G8 + 2Pt(NH <sub>3</sub> ) <sub>2</sub> - 1NH <sub>3</sub> ] <sup>2-</sup>	1308.66248	1308.662379	0.08	C72H99N20O48P7Pt2
[a8 + 2Pt(NH <sub>3</sub> ) <sub>2</sub> - 4NH <sub>3</sub> ] <sup>2-</sup>	1358.6462	1358.647279	-0.79	C77H95N22O49P7Pt2
[a8 + 2Pt(NH <sub>3</sub> ) <sub>2</sub> - 3NH <sub>3</sub> ] <sup>2-</sup>	1367.15929	1367.160546	-0.92	C77H98N23O49P7Pt2
[a8 + 2Pt(NH <sub>3</sub> ) <sub>2</sub> - 2NH <sub>3</sub> ] <sup>2-</sup>	1375.67363	1375.673813	-0.13	C77H101N24O49P7Pt2
[a8 + 2Pt(NH <sub>3</sub> ) <sub>2</sub> - 1NH <sub>3</sub> ] <sup>2-</sup>	1384.18703	1384.18708	-0.04	C77H104N25O49P7Pt2
[a9 - C9 + 2Pt(NH <sub>3</sub> ) <sub>2</sub> - 3NH <sub>3</sub> ] <sup>2-</sup>	1456.15984	1456.162144	-1.58	C82H105N23O54P8Pt2
[a9 - C9 + 2Pt(NH <sub>3</sub> ) <sub>2</sub> - 2NH <sub>3</sub> ] <sup>2-</sup>	1464.67562	1464.675411	0.14	C82H108N24O54P8Pt2
[a9 - C9 + 2Pt(NH <sub>3</sub> ) <sub>2</sub> - 1NH <sub>3</sub> ] <sup>2-</sup>	1473.18718	1473.188678	-1.02	C82H111N25O54P8Pt2
[a9 - C9 + 2Pt(NH <sub>3</sub> ) <sub>2</sub> ] <sup>2-</sup>	1481.70272	1481.701945	0.52	C82H114N26O54P8Pt2
[a9 + 2Pt(NH <sub>3</sub> ) <sub>2</sub> - 3NH <sub>3</sub> ] <sup>2-</sup>	1511.68401	1511.683781	0.15	C86H110N26O55P8Pt2
[a9 + 2Pt(NH <sub>3</sub> ) <sub>2</sub> - 2NH <sub>3</sub> ] <sup>2-</sup>	1520.1961	1520.197049	-0.62	C86H113N27O55P8Pt2
[a9 + 2Pt(NH <sub>3</sub> ) <sub>2</sub> - 1NH <sub>3</sub> ] <sup>2-</sup>	1528.71202	1528.710316	1.11	C86H116N28O55P8Pt2
[w2] <sup>-</sup>	595.09621	595.096032	0.30	C18H26N6O13P2
[w3] <sup>-</sup>	899.14205	899.142069	-0.02	C28H39N8O20P3
[w3] <sup>2-</sup>	449.0674	449.0673965	0.01	C28H39N8O20P3
[w4] <sup>-</sup>	1188.18859	1188.188441	0.13	C37H51N11O26P4
[w4] <sup>2-</sup>	593.59076	593.5905825	0.30	C37H51N11O26P4
[w5] <sup>2-</sup>	745.61388	745.613601	0.37	C47H64N13O33P5
[w6] <sup>2-</sup>	897.63696	897.6366195	0.38	C57H77N15O40P6
[w6] <sup>3-</sup>	598.0888	598.0886543	0.24	C57H77N15O40P6
[w7] <sup>2-</sup>	1042.15936	1042.159806	-0.43	C66H89N18O46P7

[w7] <sup>3-</sup>	694.43773	694.437445	0.41	C66H89N18O46P7
[a3 - T3] <sup>-</sup>	675.12248	675.122247	0.34	C23H30N6O14P2
[a5 - C5] <sup>-</sup>	1283.21407	1283.214321	-0.20	C43H56N10O28P4
[a5 - C5] <sup>2-</sup>	641.10364	641.1035225	0.18	C43H56N10O28P4
[a7 - T7] <sup>2-</sup>	937.6497	937.649727	-0.03	C62H81N15O41P6
[a8 - G8] <sup>3-</sup>	726.11289	726.1127387	0.21	C72H94N17O48P7
[a8 - G8] <sup>2-</sup>	1089.67257	1089.672746	-0.16	C72H94N17O48P7
[a9 - C9] <sup>3-</sup>	835.79738	835.7969117	0.56	C82H106N22O54P8
[a9 - C9] <sup>2-</sup>	1254.19822	1254.199006	-0.63	C82H106N22O54P8
[C2: T7] <sup>3-</sup>	656.41958	656.4193913	0.29	C63H83N14O45P7
[C2: T7] <sup>2-</sup>	985.13306	985.132725	0.34	C63H83N14O45P7
[T3: T4 or T6: T7 or T10: T11] <sup>1-</sup>	785.08781	785.087908	-0.12	C25H33N4O19P3
[C2: T6] <sup>2-</sup>	833.10995	833.1097065	0.29	C53H70N12O38P6
[T3: T7] <sup>2-</sup>	840.60968	840.6095395	0.17	C54H71N11O39P6
[a6] <sup>2-</sup>	848.64849	848.648172	0.37	C57H74N15O36P5
[y6] <sup>2-</sup>	857.65376	857.6534545	0.36	C57H76N15O37P5
[y7] <sup>2-</sup>	1002.17666	1002.176641	0.02	C66H88N18O43P6
[a4] <sup>-</sup>	1105.21124	1105.211211	0.03	C38H49N10O23P3
[C2: T4 or C9: T11 or T11: T13] <sup>-</sup>	1074.13396	1074.13428	-0.30	C34H45N7O25P4
[C2: T4 or C9: T11 or T11: T13] <sup>2-</sup>	536.56367	536.563502	0.31	C34H45N7O25P4
[T3: T6 or T4: T7 or T10: T13] <sup>2-</sup>	688.5868	688.5865205	0.41	C44H58N9O32P5
[T3: T6 or T4: T7 or T10: T13] <sup>-</sup>	1378.17846	1378.180317	-1.35	C44H58N9O32P5
[y3] <sup>-</sup>	819.17601	819.175739	0.33	C28H38N8O17P2

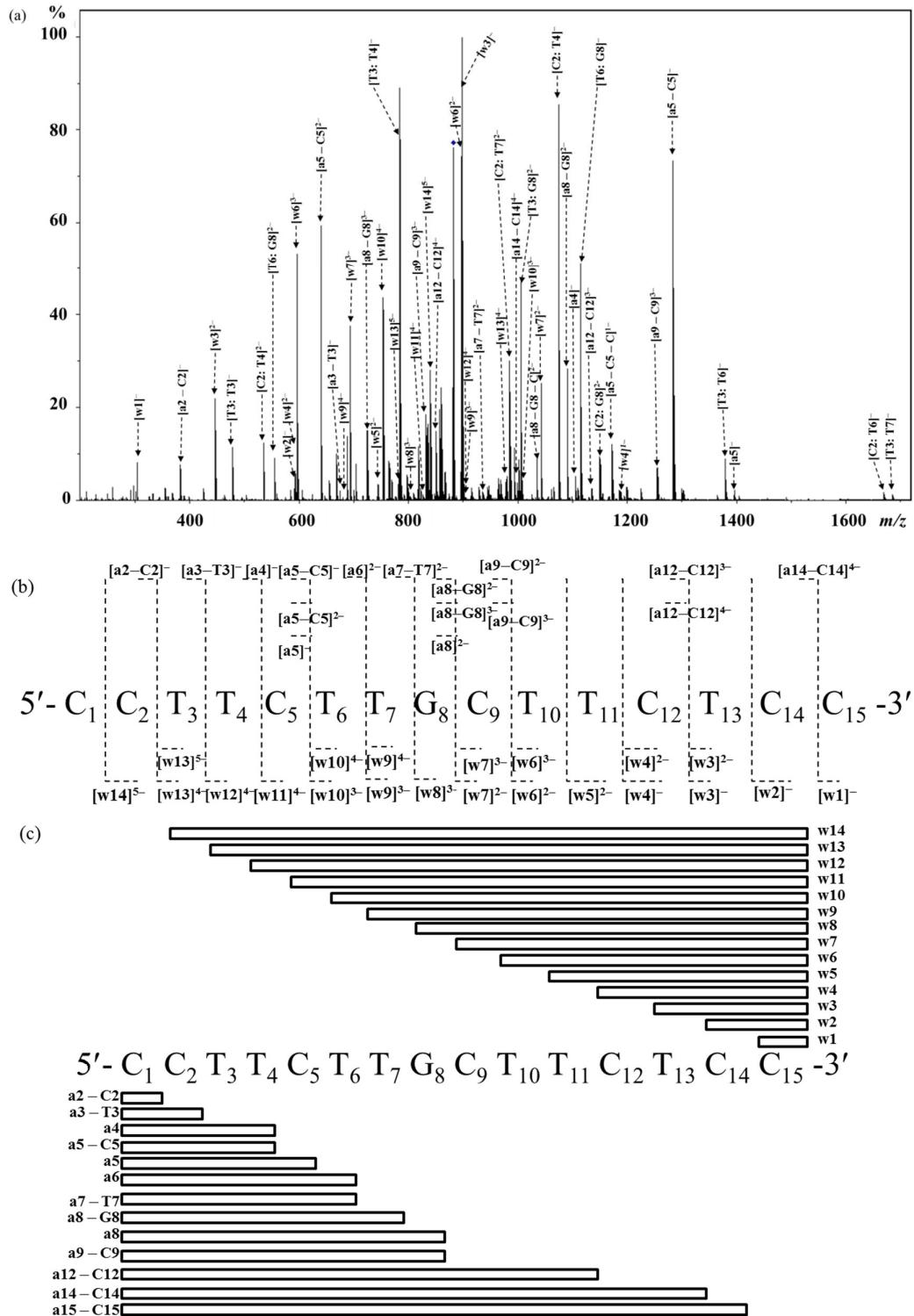


Figure S1. FT-ICR CID MS/MS spectrum of [ODN15 - 5H]<sup>5-</sup> (a), along with corresponding fragmentation maps (b) and fragments sequence of ODN15 (c). Main fragments were assigned and labeled in the spectrum shown in (a).