

Supporting Information

Platinum Binding Preferences Dominate the Binding of Novel Polyamide

Amidine Anthraquinone Platinum(II) Complexes to DNA

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Seq2 Primer

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1      5' - ATGTGCTGCA AGGCGATTAA GTTGGGTAAC GCCAGGGTTT TCCCAGTCAC
      3' -TACACGACGT TCCGCTAATT CAACCCATTG CGGTCCCAA AGGGTCAGTG

51     GACGTTGTAA AACGACGGCC AGTGAATTGG GGGGGGGGTA ATTCGAGCTT
      CTGCAACATT TTGCTGCCGG TCACTTAACC CCCCCCCAT TAAGCTCGAA

101    TTCGGTTTCG GTTTCGATTT CGATTTTGAT TTTGATTTAG CTCGGTACCC
      AAGCCAAAGC CAAAGCTAAA GCTAAAATA AACTAAATC GAGCCATGGG

151    GGGGATCTTA GGGTTAGGGT TAGGGTTAGG GTTAGGGTTA GGGTTAGGGA
      CCCCTAGAAT CCAATCCCA ATCCAATCC CAATCCCAAT CCAATCCCT

201    GCTTGGCGTA ATCATGGTCA TAGCTGTTTC CTGTGTGAAA TTGTTATCCG
      CGAACCGCAT TAGTACCACT ATCGACAAAG GACACACTTT AACAATAGGC

251    CTCACAATTC CACACAACAT ACGAGCCGGA AGCATAAAGT GTAAAGCCTG
      GAGTGTAAAG GTGTGTTGTA TGCTCGGCCT TCGTATTTC AATTCGGAC

301    GGGTGCCTAA TGAGTGAGCT AACTCACATT AATTGCGTTG CGCTCACTGC
      CCCACGGATT ACTCACTCGA TTGAGTGTA TTAACGCAAC GCGAGTGACG

351    CCGCTTTCCA GTCGGGAAAC CTGTCGTGCCAG
      GCGAAAGGT CAGCCCTTTG GACAGCACGGTC

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Figure S1. Sequence and fragment base pair lengths from 6-FAM Seq2 primer from the pUC19 with the T₇G₁₀CpG insert. The platinum adduct peaks observed at 3'-(T/A)GTA-5' regions are highlighted in red. The 5'-CGTA-3' sequence for which no platinum adduct peaks were observed is highlighted in orange. The observed peaks are representative of at least three independent experiments with the complex 1.

Mito15 primer

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1      5' -ACTCAACATA CTAGTCACAG CCCTATACTC CCTCTACATA TTTACCACAA
      3' -TGAGTTGTAT GATCAGTGTC GGGATATGAG GGAGATGTAT AAATGGTGTT

51     CACAATGGGG CTCACTCACC CACCACATTA ACAACATAAA ACCCTCATTC
      TGTTACCCC GAGTGAGTGG GTGGTGTAAT TGTTGTATTT TGGGAGTAAG

101    ACACGAGAAA ACACCCTCAT GTTCATACAC CTATCCCCCA TTCTCCGGGG
      TGTGCTCTTT TGTGGGAGTA CAAGTATGTG GATAGGGGGT AAGAGGCCCC

151    ATCCTCTAGA GTCGACCTGC AGGCATGCAA GCTTGGCGTA ATCATGGTCA
      TAGGAGATCT CAGCTGGACG TCCGTACGTT CGAACCGCAT TAGTACCAGT

201    TAGC
      ATCG

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Figure S2. Sequence and fragment base pair lengths from the 6-FAM Mito15 primer from pUC19 with the HMHRV insert. The platinum adduct peaks corresponding to the sequence 3'-(T/A)GTA-5' are highlighted in red, and a platinum adduct peak corresponding to the sequence 3'-CGTA-5' is highlighted in orange. The observed peaks are representative of at least three independent experiments with the [1C3-Pt(II)]⁺ complex.

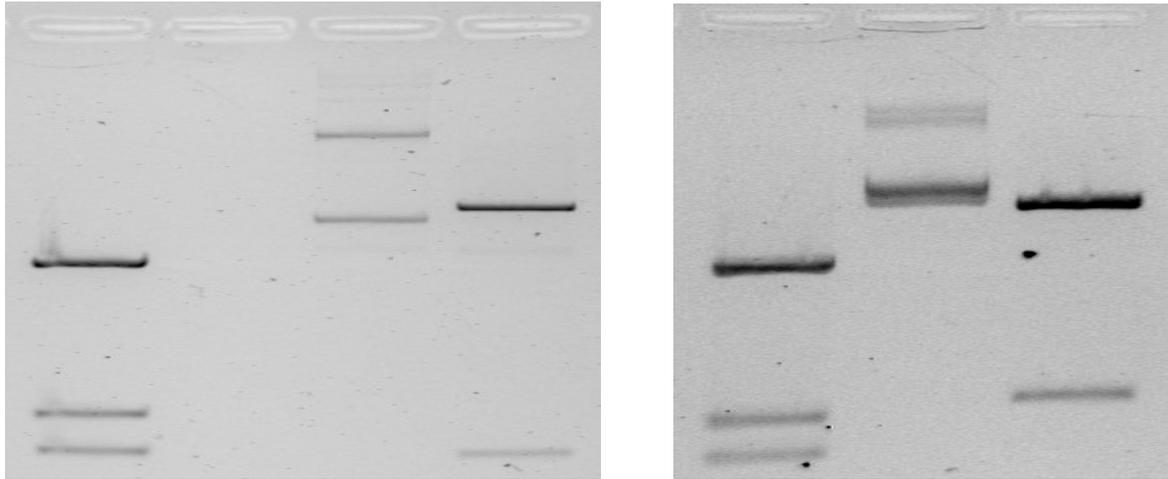


Figure S3. 2.0% agarose gel showing the electrophoretic mobility of (A) *PvuII* cleaved pUC19 T₇G₁₀CpG insert and (B) *PvuII* cleaved pUC19 Mito15 insert; Lanes (A1-4, B1-B3) *HinfI* digest of pUC19 (Lanes A1 and B1), pUC19 T₇G₁₀CpG insert (Lane A3), *PvuII* cleaved pUC19 T₇G₁₀CpG insert (Lane A4), pUC19 HMHVR insert (Lane B2), *PvuII* cleaved pUC19 Mito15 insert (Lane B3).

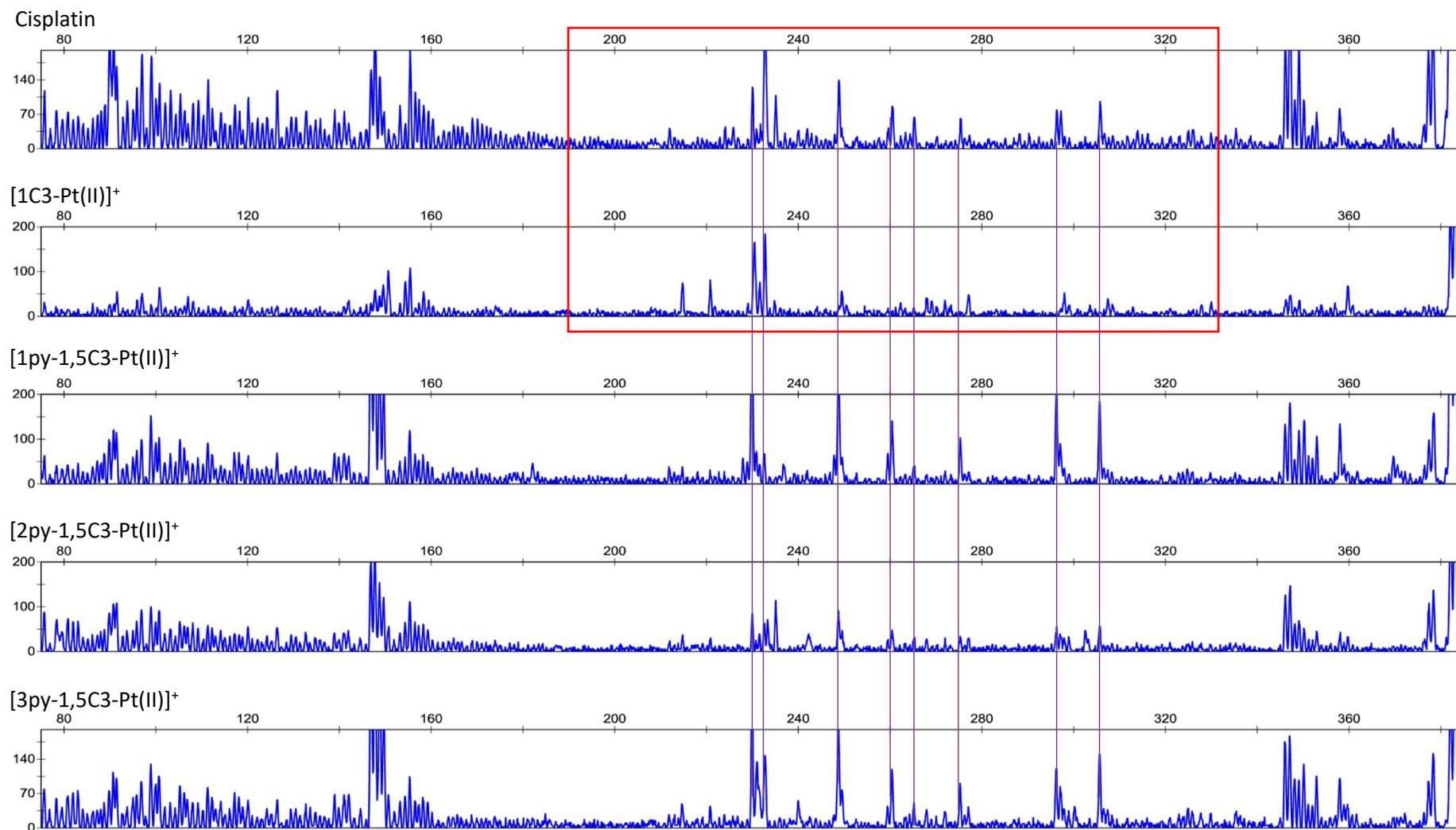


Figure S4. Electropherograms of cisplatin and polyamide-anthraquinone-platinum(II) complexes with *PvuII* digested T₇G₁₀CpG plasmid. A region of interest comparing the complexes with the same fragment length is indicated with purple dashed lines. Electropherograms of cisplatin and [1C3-Pt(II)]⁺ are boxed in red. The x-axis indicates the fragment size in nucleotides and the y-axis indicates relative fluorescence intensity.

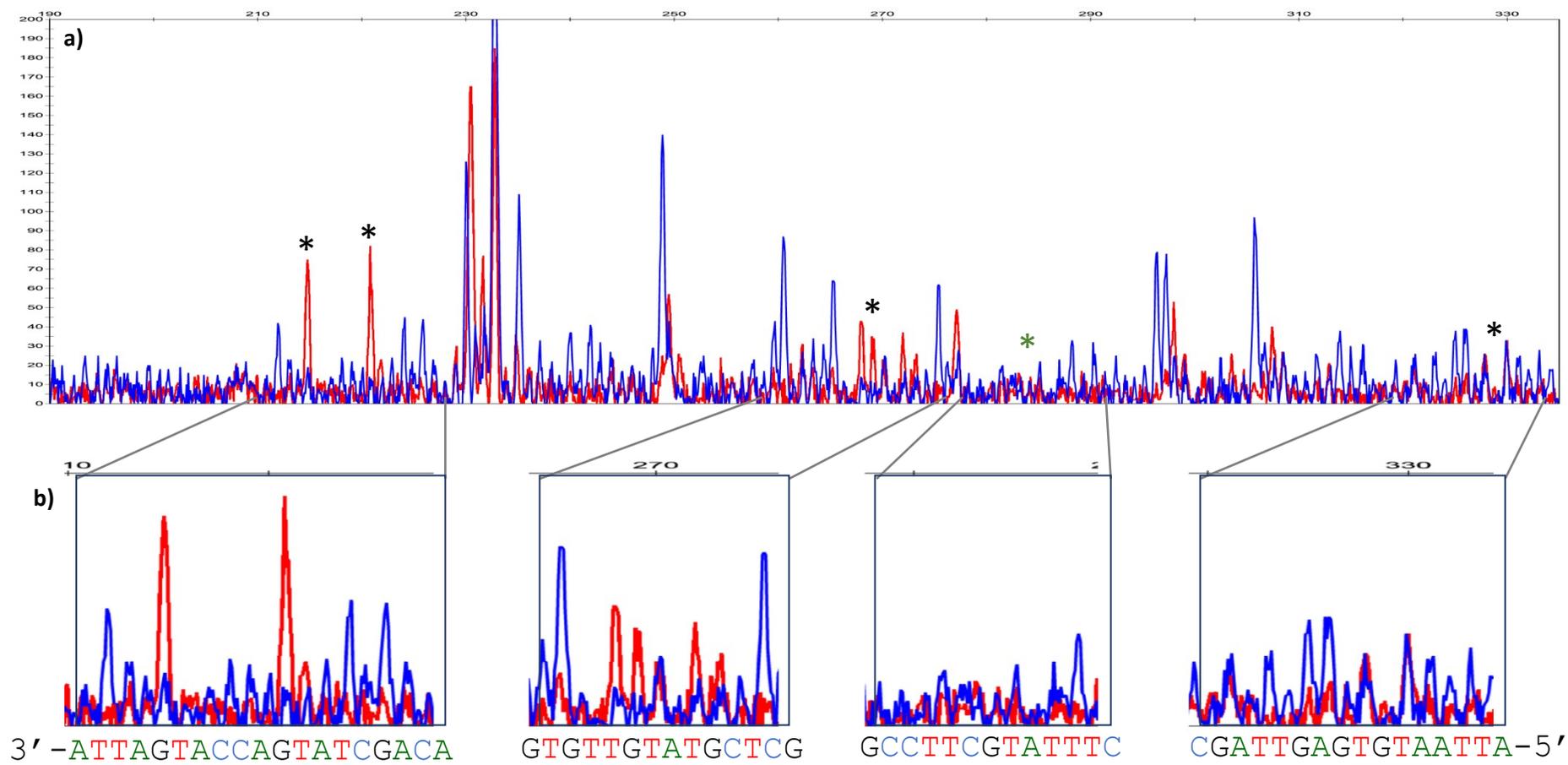


Figure S5. Identification of the sequence specificity of [1C3-Pt(II)]⁺ complex (red) with the T₇G₁₀CpG/PvuII plasmid. Electropherograms from Figure S4 were overlaid with cisplatin (blue) to elucidate the sequence specificity of the platinum complex. The traces a) overlaid and b) zoomed, with the corresponding DNA sequence (from dideoxy sequencing) have been aligned with the zoomed overlay in b). Black underline indicate the sequence 3'-(A/T)GTA-5' and the orange underline indicates the sequence 3'-CGTA-5'. The x-axis indicates the fragment size in nucleotides and the y-axis indicates relative fluorescence intensity.

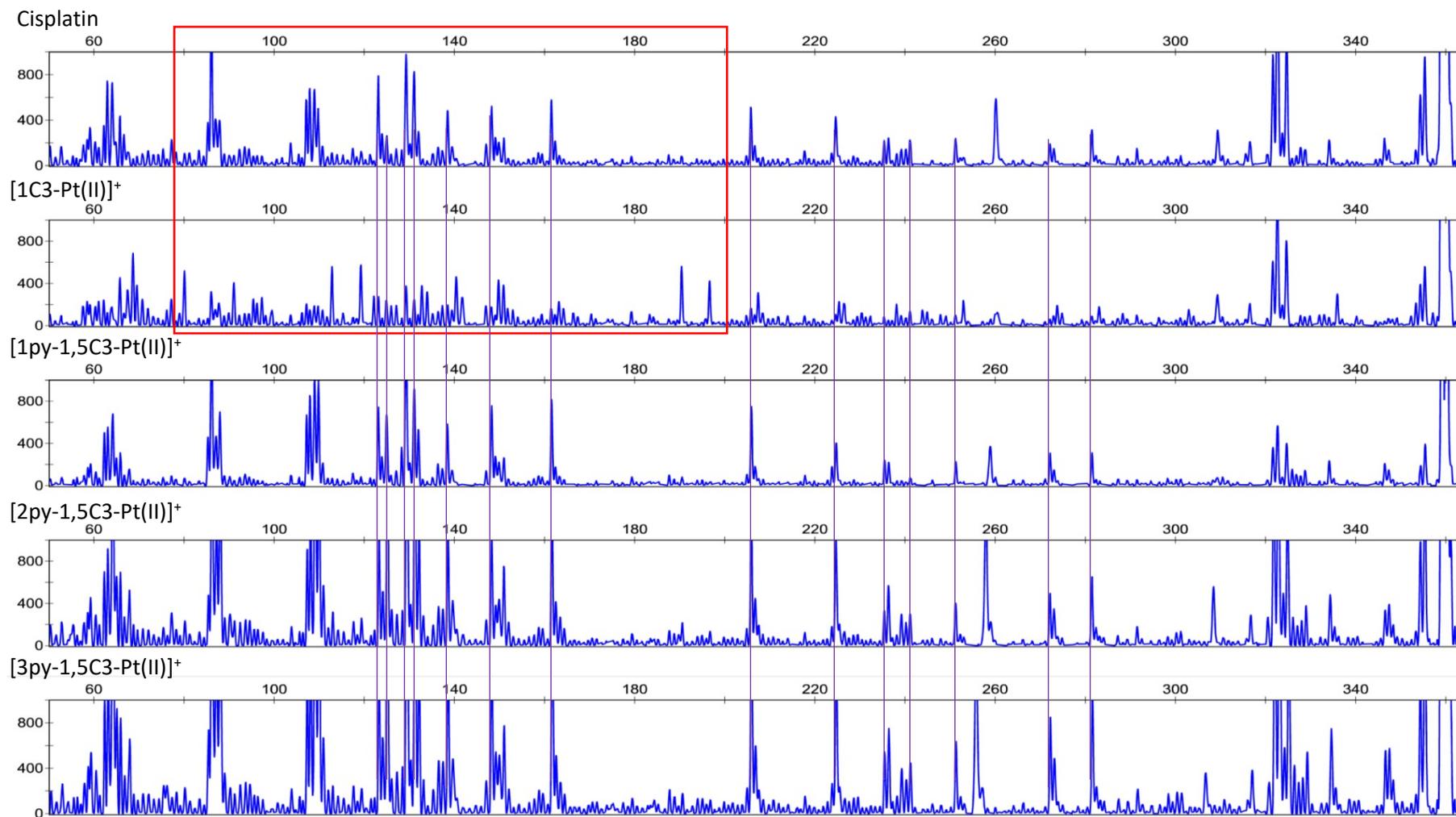


Figure S6. Electropherograms of cisplatin and polyamide-antraquinone-platinum(II) complexes with *PvuII* digested Mito15 plasmid. A region of interest comparing the complexes with the same fragment length is indicated with purple dashed lines. Electropherograms of cisplatin and [1C3-Pt(II)]⁺ are boxed in red. The x-axis indicates the fragment size in nucleotides and the y-axis indicates relative fluorescence intensity.

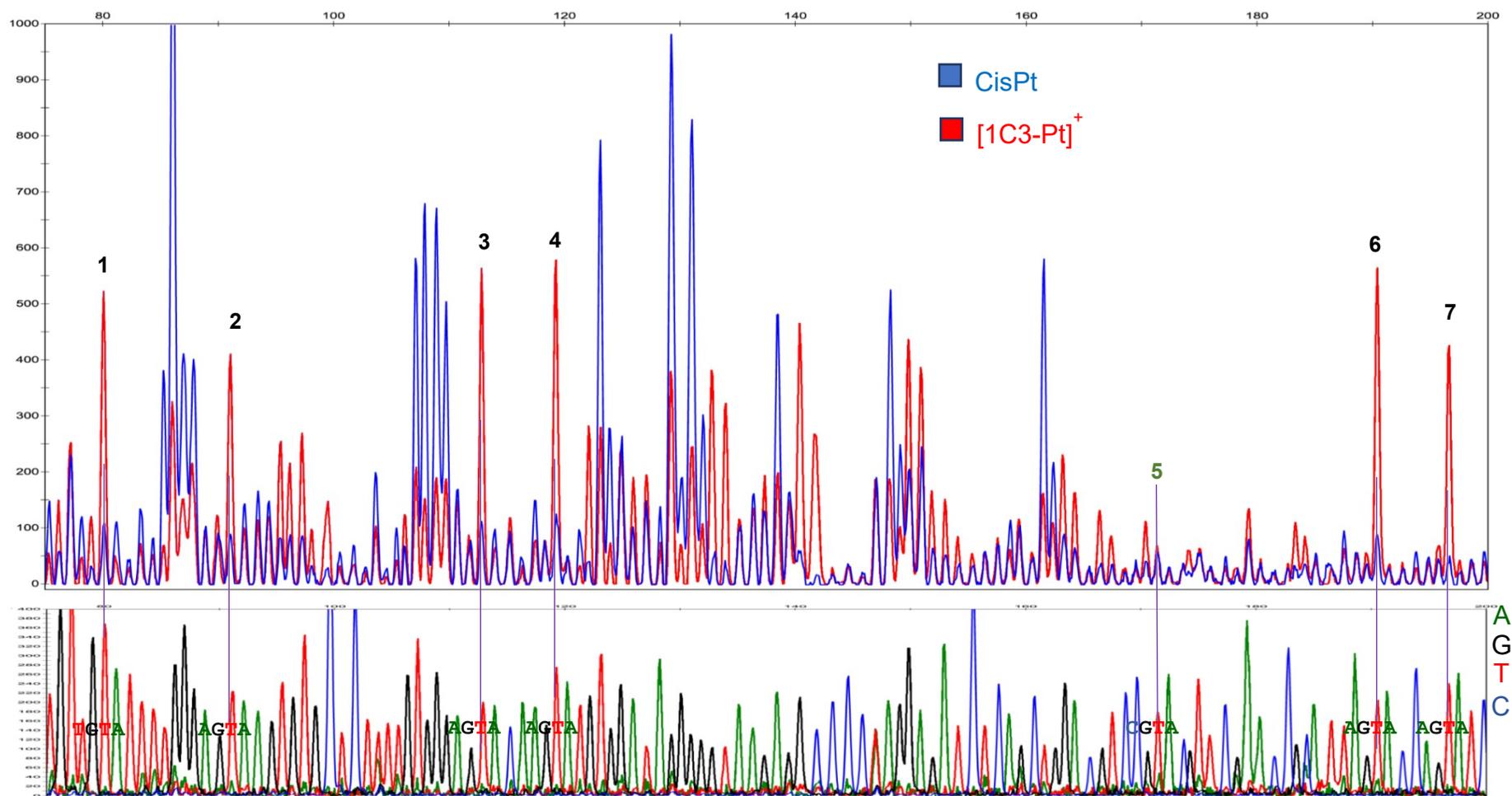


Figure S7. (Top) overlay of electropherograms of cisplatin (blue) and [1C3-Pt(II)]⁺ (red) from the red boxed region of interest (Figure 3.11); (bottom) Dideoxynucleotide sequencing of DNA (DNA ladder). Distinctive peaks (1-4, 6-7) are marked with a black number (3'-(T/A)GTA-5') and the absence of platinum adduct sequence is highlighted in orange (3'-CGTA-5') (5).

