

Supplementary Material

A novel platinum(II) anticancer complex of dansyl bis(2-benzothiazolylmethyl)amine with a dimethyl sulfoxide as a leaving group: synthesis, cytotoxicity, interaction with DNA and human serum albumin

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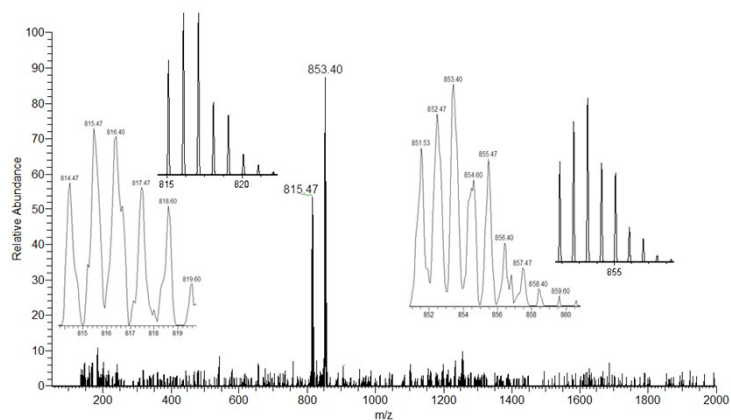


Fig. S1 ESI-MS of [PtL(DMSO)Cl]Cl (**1**) in methanol.

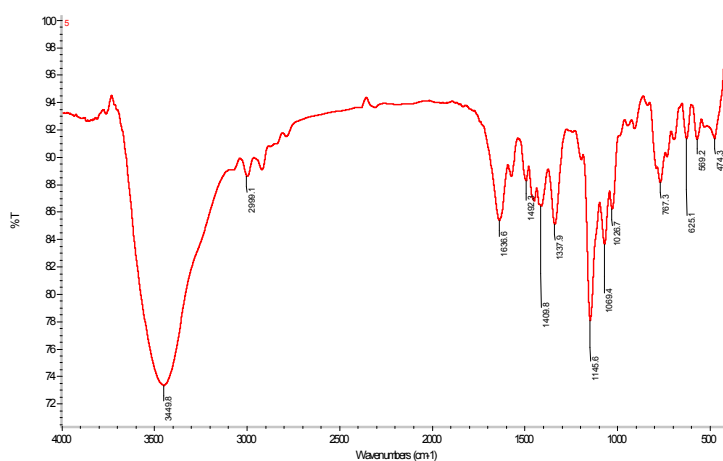
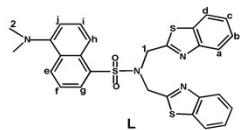
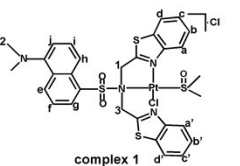


Fig. S2 The solid-state IR absorption spectrum of complex **1**.



9.3992
9.3711
8.5986
8.5722
8.1354
8.1354
9.1078
7.9520
7.9520
7.8170
7.7926
7.7680
7.7649
7.7589
7.6360
6.069

complex 1



Chemical structure of compound **L** is shown, which is a bis-benzothiazole derivative. The structure consists of a central carbonyl group (C=O) bonded to a nitrogen atom (N). This nitrogen atom is also bonded to two benzothiazole rings. The carbonyl group is also bonded to a phenyl ring, which is substituted with a dimethylamino group (N(CH₃)₂). The molecular weight of compound **L** is 362.43 g/mol.

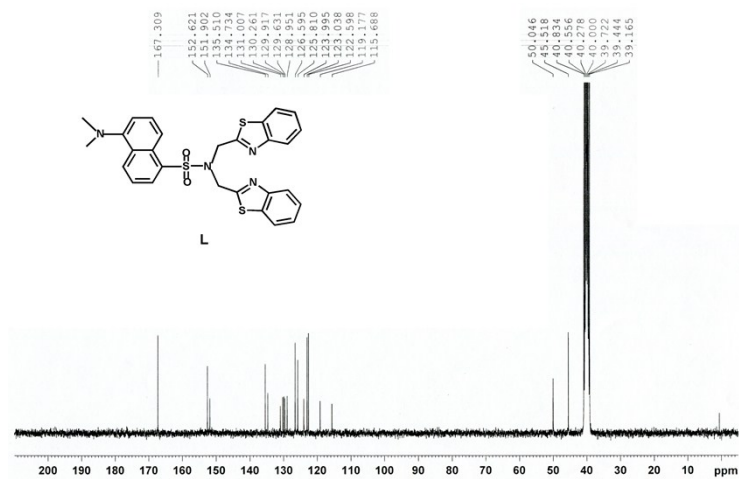


Fig. S5 ^{13}C NMR spectrum of danysl bis(2-benzothiazolylmethyl)amine (**L**) in $\text{DMSO}-d^6$.

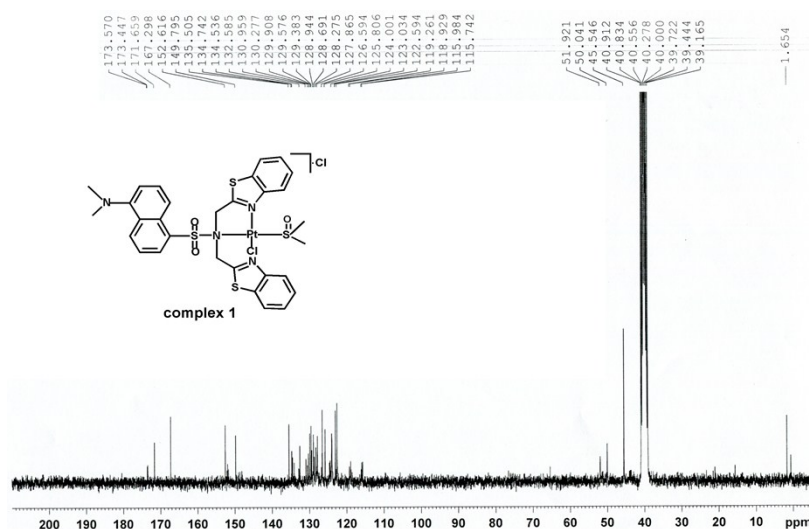


Fig. S6 ^{13}C NMR spectrum of $[\text{PtL}(\text{DMSO})\text{Cl}]\text{Cl}$ (**1**) in $\text{DMSO}-d^6$.

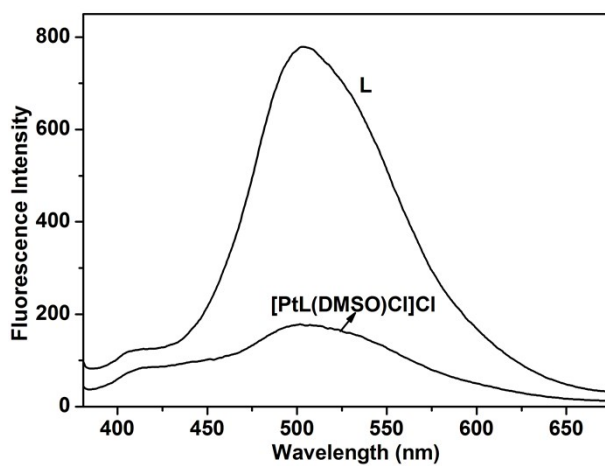


Fig. S7 The fluorescence spectrum of $[\text{PtL}(\text{DMSO})\text{Cl}]\text{Cl}$ (**1**) ($30\ \mu\text{M}$, $\lambda_{\text{ex}} = 356\ \text{nm}$) and **L** ($30\ \mu\text{M}$, $\lambda_{\text{ex}} = 356\ \text{nm}$) in a Tris-HCl-NaCl buffer containing 10% DMSO (pH 7.4).

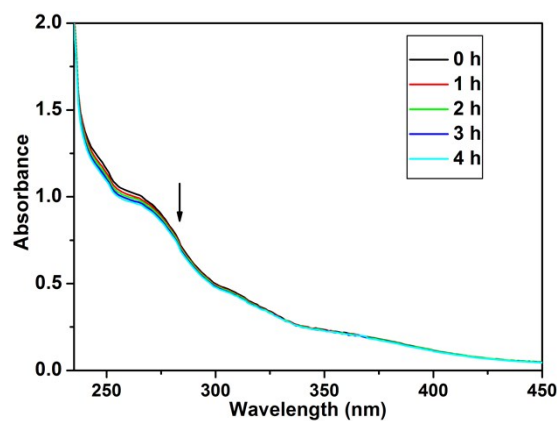


Fig. S8 Time-dependent absorption spectra of complex **1** (40 μ M) in the absence and presence of a fixed amount of CT-DNA ($r = [\text{DNA}]/[\text{complex}] = 0.5$) at room temperature in pH 7.40.

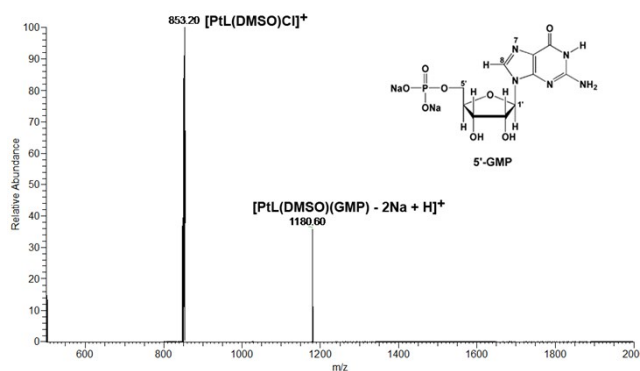


Fig. S9 ESI-MS spectrum (positive mode) of the reaction between complex **1** and 5'-GMP (1:2) recorded in methanol/water (v/v, 1:1) at 37 °C for 24 h. Assignments: 1180.60, $[\text{PtL}(\text{DMSO})(\text{GMP}) - 2\text{Na} + \text{H}]^+$ ($\text{C}_{40}\text{H}_{43}\text{N}_9\text{O}_{11}\text{S}_4\text{PPt}$, calcd 1080.15); 853.20, $[\text{PtL}(\text{DMSO})\text{Cl}]^+$.

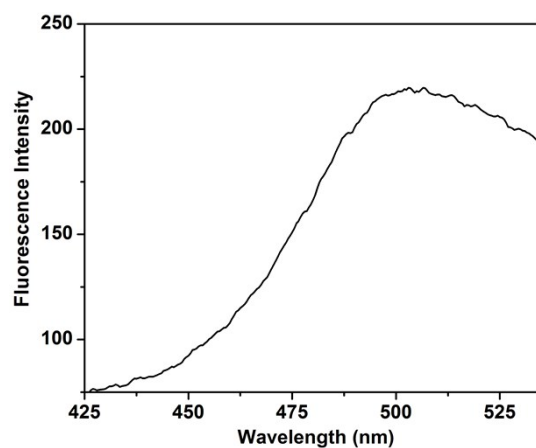


Fig. S10 The fluorescence spectrum of [PtL(DMSO)Cl]Cl (**1**) (30 μ M, $\lambda_{\text{ex}} = 280$ nm) in a Tris-HCl–NaCl buffer containing 10% DMSO (pH 7.4).

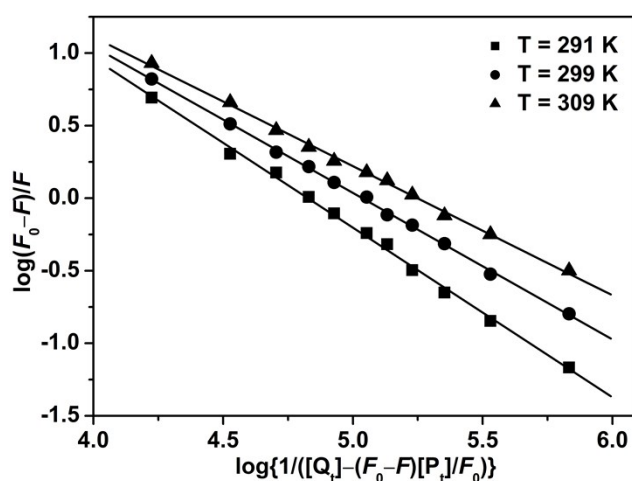


Fig. S11 Plots of $\log[(F_0 - F)/F]$ versus $\log\{1/([Q_t] - (F_0 - F)[P_t]/F_0)\}$ at different temperatures for HSA (0.4 μ M, pH 7.40) in the presence of complex **1** ($\lambda_{\text{ex}} = 280$ nm, $\lambda_{\text{em}} = 345$ nm).