

ELECTRONIC SUPPLEMENTARY INFORMATION

DNA Fragment Conformations in Adducts with Kiteplatin.

Nicola Margiotta,¹ Emanuele Petruzzella,¹ James A. Platts,² Shaun Mutter,² Robert J. Deeth,³ Rosa Ranaldo,^{1,4} Paride Papadia,⁵ Patricia A. Marzilli,⁴ Luigi G. Marzilli,⁴ James D. Hoeschele,⁶ Giovanni Natile.¹

¹Dipartimento di Chimica, Università degli Studi di Bari A. Moro, via E. Orabona, 4, 70125 Bari (Italy);

²School of Chemistry, Cardiff University, Park Place, Cardiff CF10 3AT (UK);

³Department of Chemistry, University of Warwick, Gibbet Hill Road, Coventry, CV4 7AL (UK);

⁴Department of Chemistry, Louisiana State University, Baton Rouge, Louisiana 70803 (USA);

⁵Dipartimento di Scienze e Tecnologie Biologiche ed Ambientali, Università del Salento, Prov.le Lecce-Monteroni, 73100 Lecce (Italy);

⁶Department of Chemistry, Eastern Michigan University, Ypsilanti, Michigan 48197 (USA).

Table S1. Temperature dependence of the H8 signals (ppm) of (*cis*-1,4-DACH)Pt(d(TGGT)) in D₂O.

(<i>cis</i> -1,4-DACH)Pt(d(TGGT))	5 °C	25 °C	40 °C
3'-G H8	9.15	9.06	9.00
5'-G H8	8.17	8.20	8.22

Table S2. ³¹P NMR data (ppm) for (*cis*-1,4-DACH)Pt(d(TGGT)) at different temperatures.

T, °C	GpG	GpT	TpG
5	-3.03	-4.23	-4.39
25	-2.95	-4.09	-4.17
40	-2.87	-3.40	-3.40

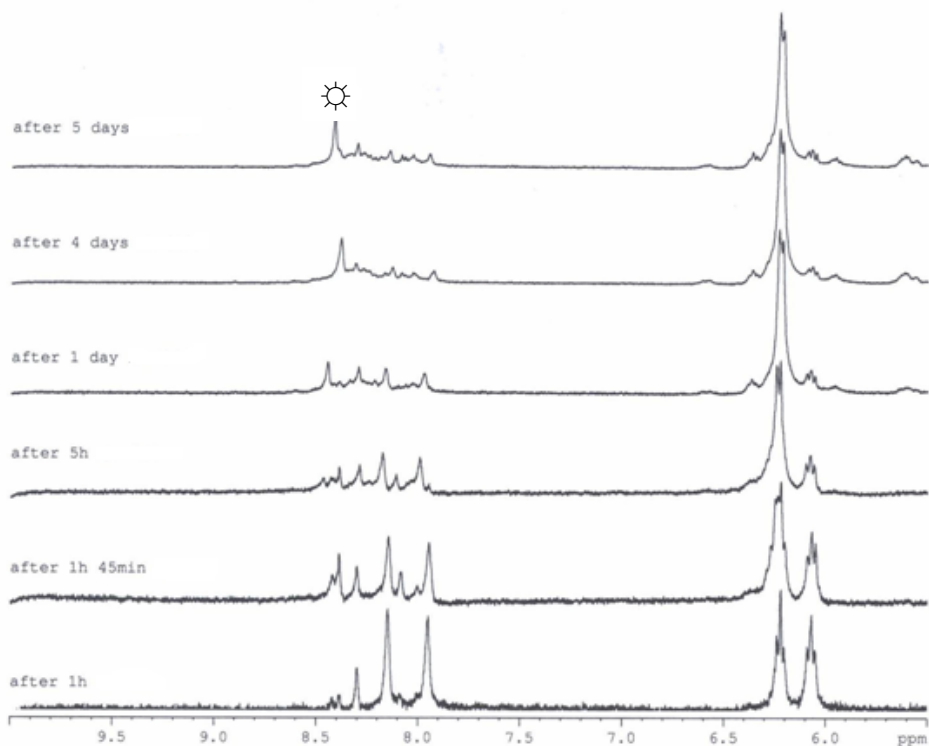


Figure S1. H8 and H1' regions of the ¹H NMR (400 MHz) spectra (collected at 25 °C) used to monitor the reaction between [Pt(OD₂)₂(*cis*-1,4-DACH)]²⁺ and d(GpG) in D₂O (pH ~3.1). The symbol ☼ designates an impurity (at 8.42 ppm in the final spectrum; likely formate from plastic pipette tips).

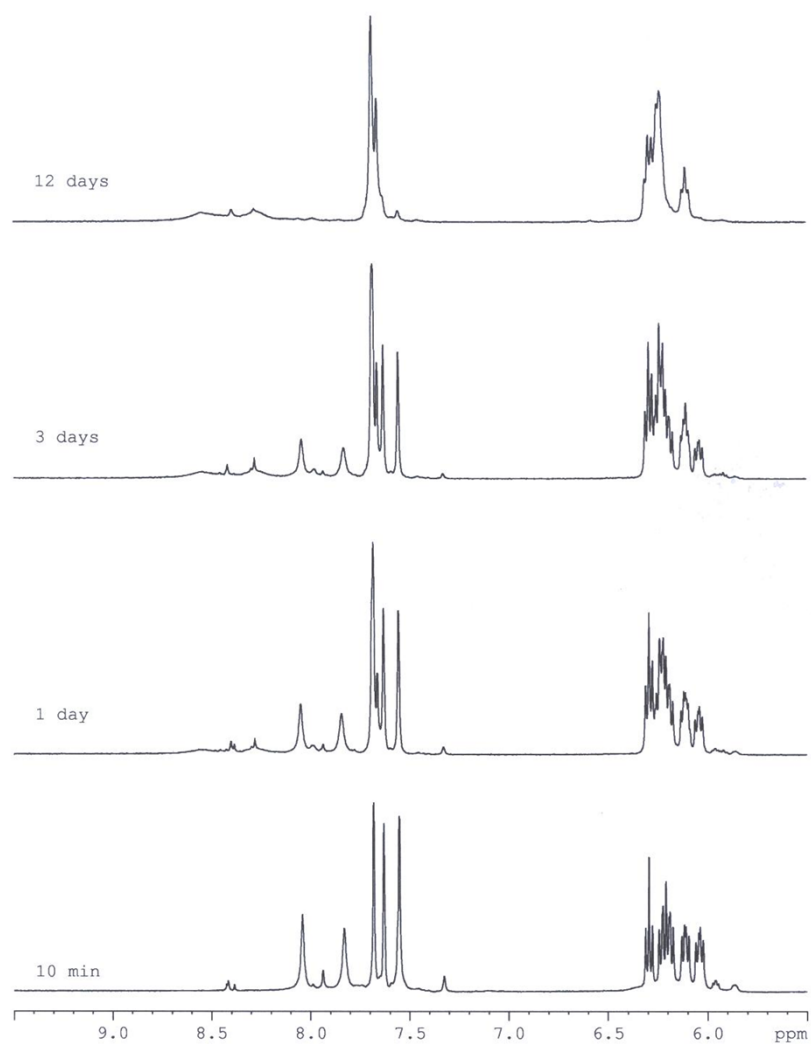


Figure S2. ¹H NMR (400 MHz) spectra (region of H8, H6 and H1' resonances) monitoring the reaction of [Pt(OD₂)₂(*cis*-1,4-DACH)]²⁺ with d(GGTTT) in D₂O (pH ~4).

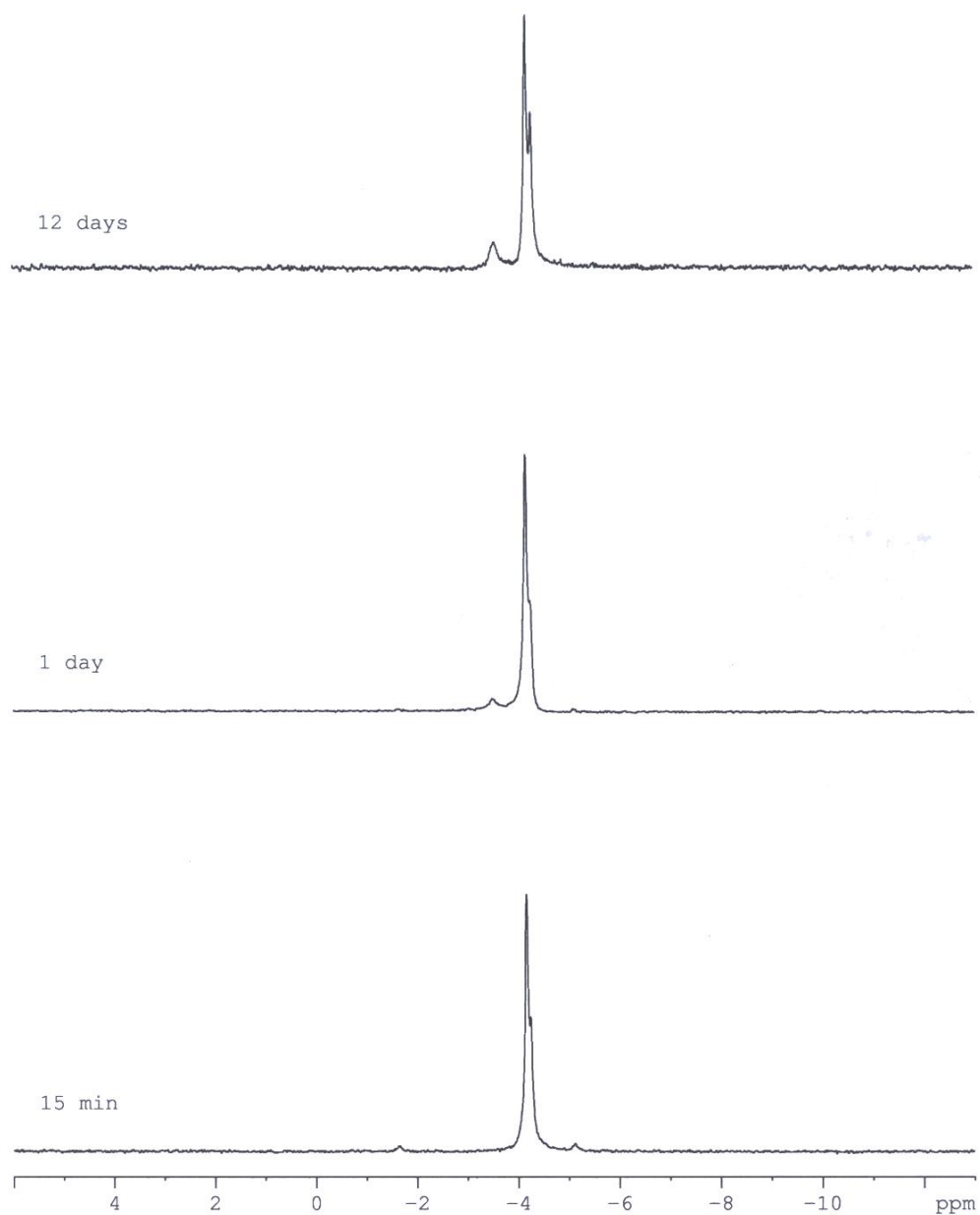


Figure S3. ^{31}P NMR (161.98 MHz) spectra monitoring the reaction of $[\text{Pt}(\text{OD}_2)_2(\text{cis-1,4-DACH})]^{2+}$ with d(GGTTT) in D_2O (pH ~4, 25 °C).

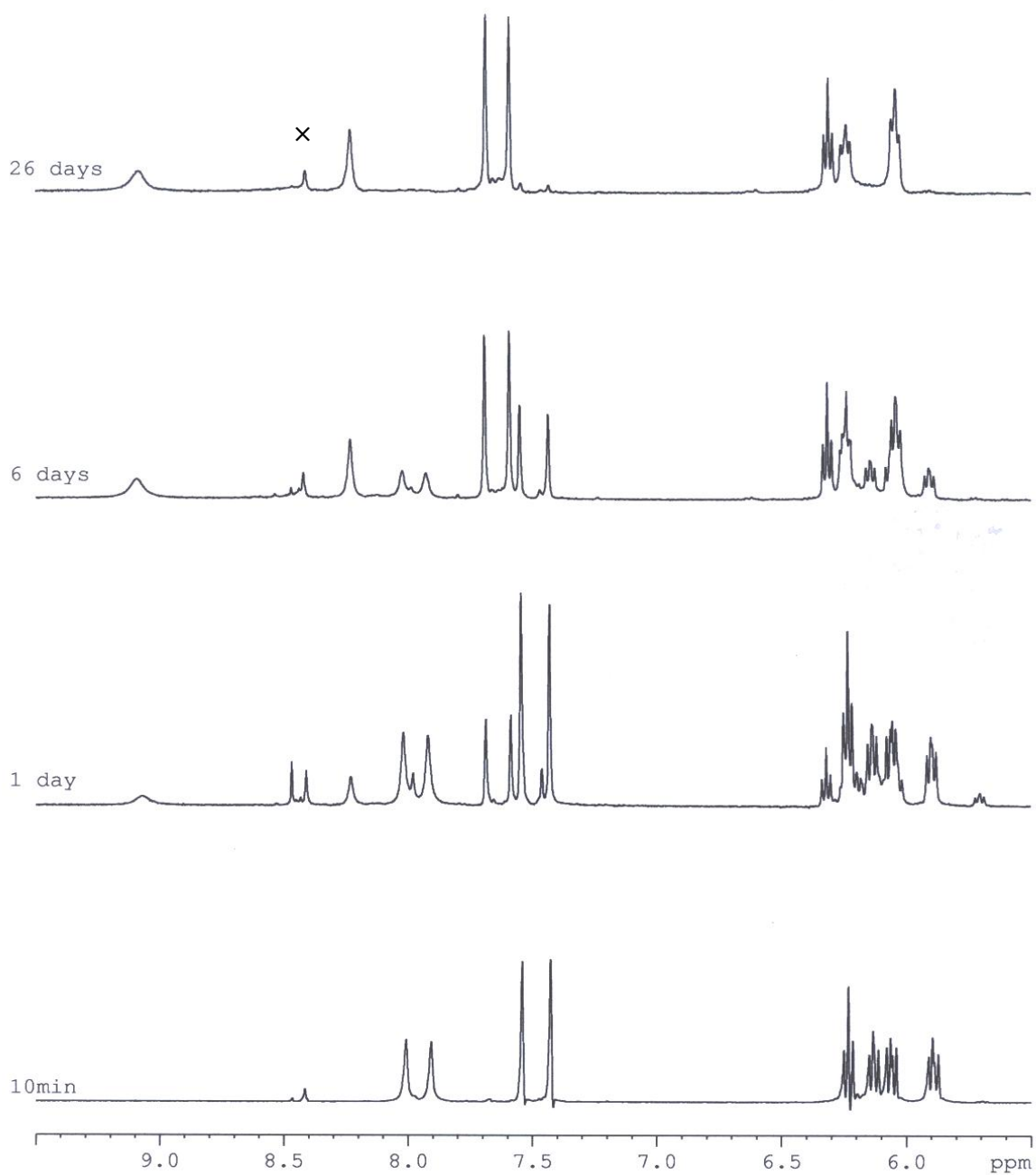


Figure S4. ¹H NMR (400 MHz) spectra in the region of H8, H6 and H1' resonances, monitoring the reaction of [Pt(OD₂)₂(*cis*-1,4-DACH)]²⁺ with d(TGGT) in D₂O (pH ~4). × indicates an impurity present in the solvent (likely formate from plastic pipette tips).

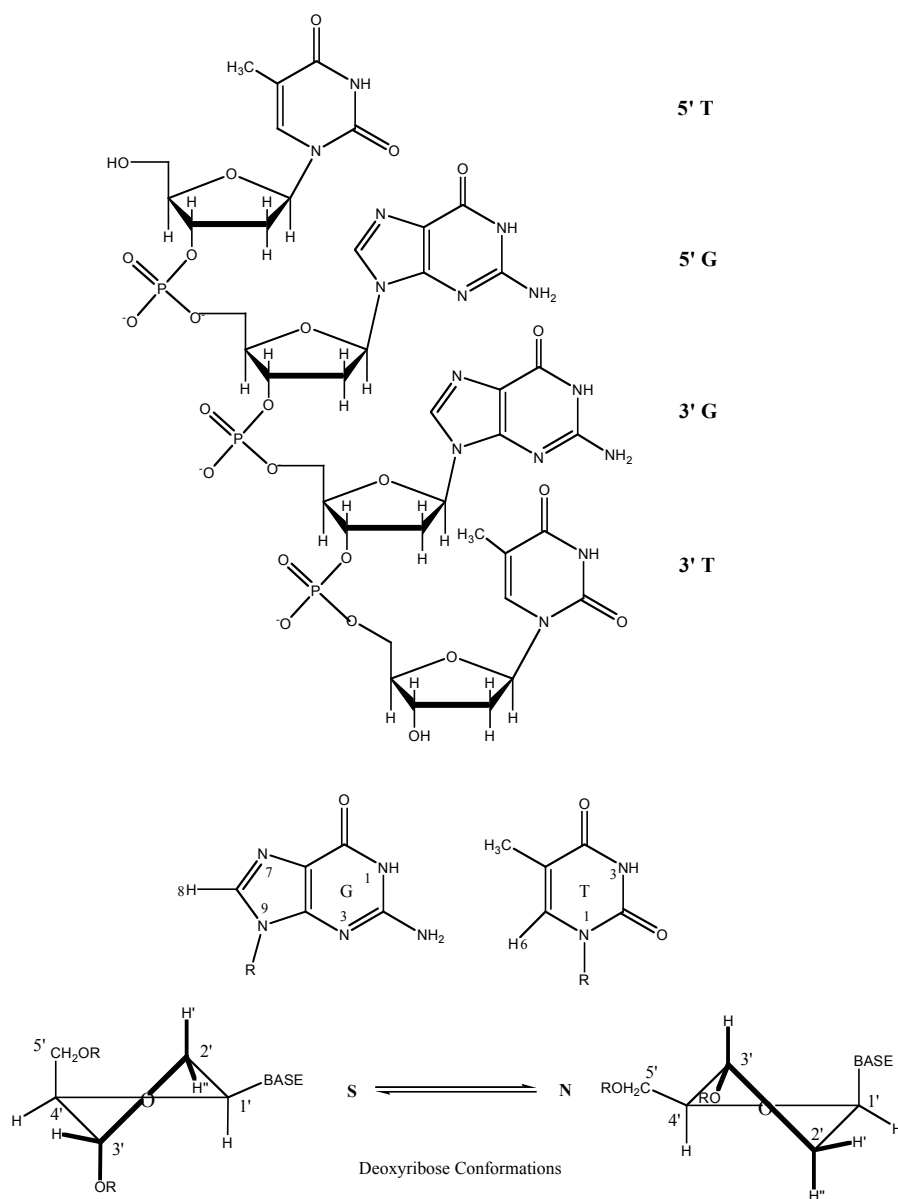


Figure S5. Schematic representation of d(TGGT) with the base and deoxyribose proton-numbering scheme. The S and N conformations of the deoxyribose moieties are also depicted.

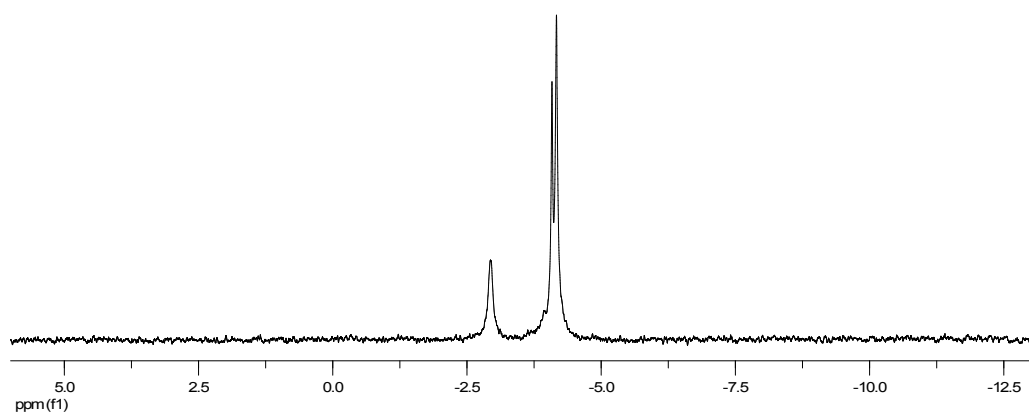


Figure S6. ^{31}P NMR (161.98 MHz) spectrum of the end product of the reaction between $[\text{Pt}(\text{OD}_2)(\text{cis-1,4-DACH})]^{2+}$ and d(TGGT) in D_2O (pH ~ 4 , 25 $^\circ\text{C}$, 25 days after mixing).

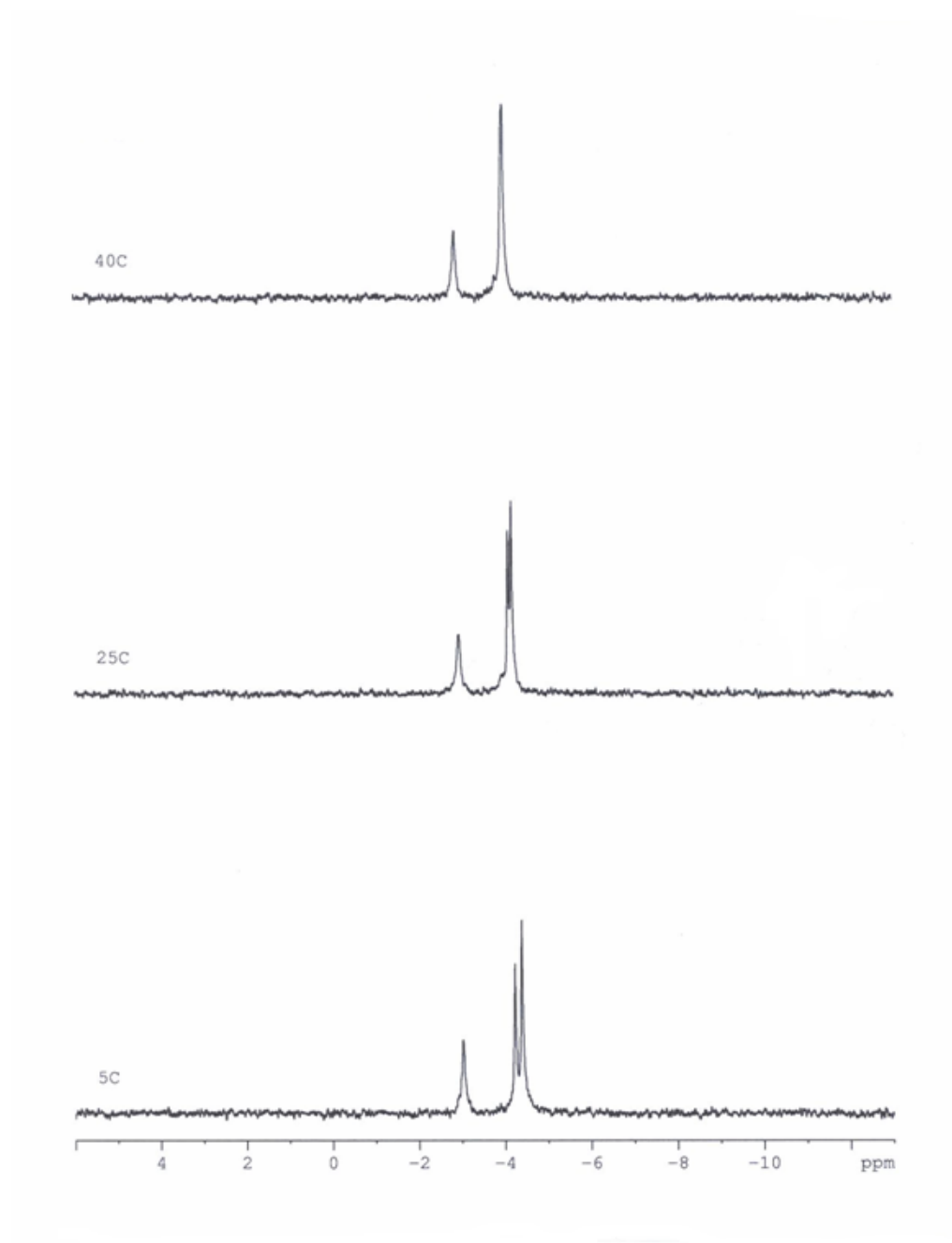


Figure S7. Temperature dependence (from 5 °C to 40 °C) of the ^{31}P NMR (161.98 MHz) spectrum of $(\text{cis-1,4-DACH})\text{Pt}(\text{d(TGGT)})$ in D_2O solution (pH ~4).

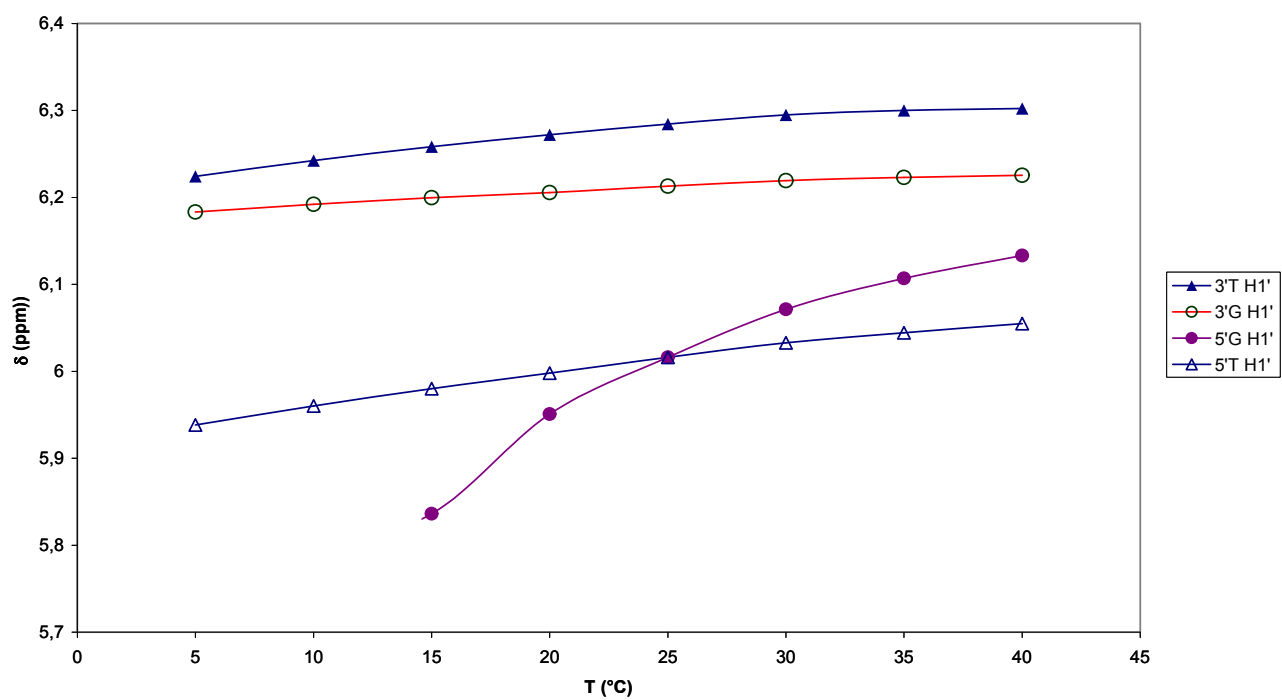


Figure S8. Temperature dependence of the H1' signals of (*cis*-1,4-DACH)Pt(d(TGGT)) in D₂O solution.