Electronic Supplementary Information

for

A flexible bis(pyridylcarbamate) anion receptor: binding of infinite double-stranded phosphate, [-sulfate-$(H_2O)_2$-]$_n$, and hydrogen-bridged helical perchlorate chain

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S1. TGA studies of the compounds **1**–**5**.

TG analysis was carried out with a Pyris diamond instrument (Perkin Elmer) under N_2 atmosphere with a heating rate of 10 °C/min, and the TGA curves are shown in Figures S1–S5.

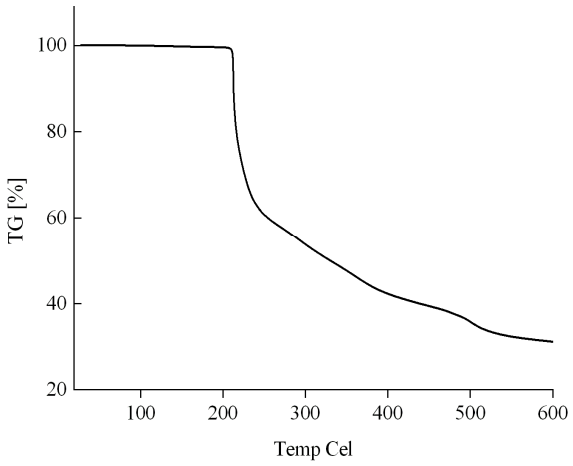

Fig. S1. TGA curve of **1**.

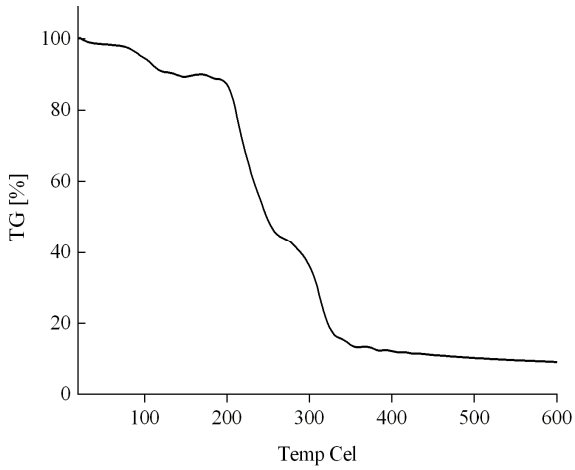

Fig. S2. TGA curve of **2**.

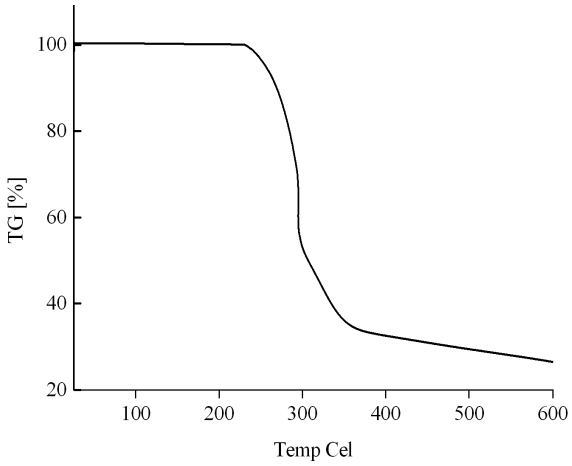

Fig. S3. TGA curve of **3**.

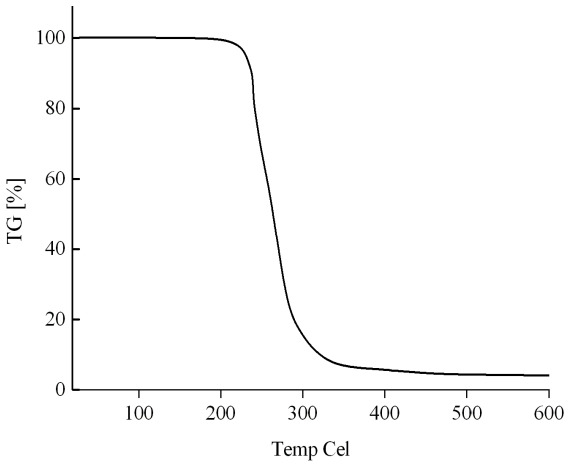

Fig. S4. TGA curve of **4**.

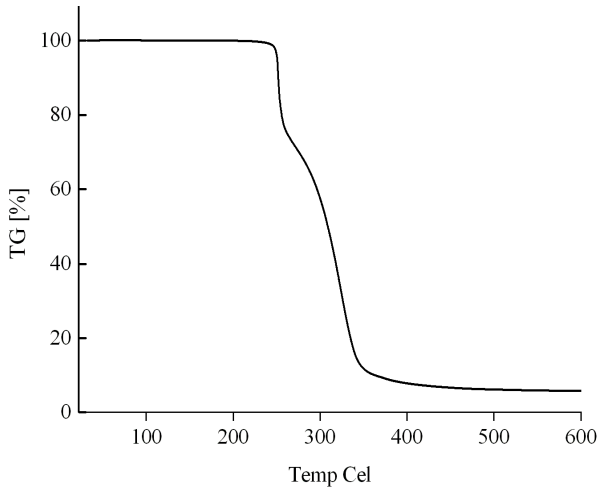

Fig. S5. TGA curve of **5**.

S2. Absorption spectra.

The UV-vis spectra of ligand L and its five acid adducts **1–5** were recorded in EtOH/DMSO (10:1, V/V, 10^{-4} M) using a Hewlett-Packard 8453 spectrophotometer to study the ligand–anion interactions in solution (Fig. S6).

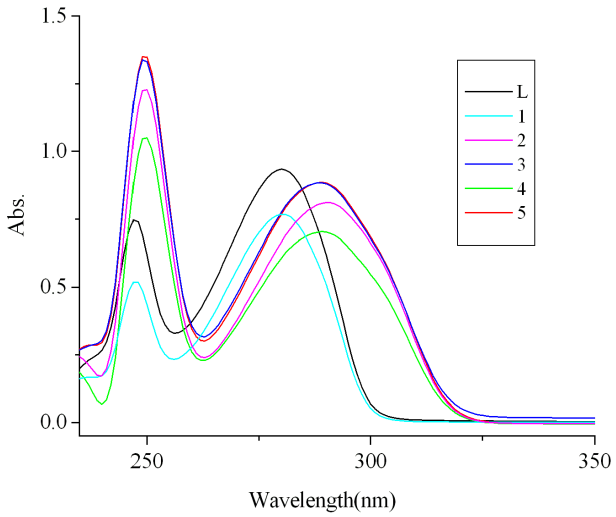

Fig. S6. Absorption spectra of ligand L and its acid adducts **1**–**5** (10^{-4} M) in ethanol/DMSO (10:1,V/V) solution at r.t.

The ligand L exhibits two absorption bands at 247 and 280 nm due to the π-π* transitions. In comparison with L, the absorptions in the UV region for **2**–**5** (i.e., 250 and 290 nm for **2**, 249 and 289 nm for **3**, 250 and 289 nm for **4**, 249 and 289 nm for **5**, respectively) are slightly red-shifted, which may be indicative of hydrogen bonding and charge-charge interactions between the anions and the protonated ligands. The UV spectrum of compound **1** (248 and 280 nm) is very close to that of ligand L, which implies that there are only very weak interactions in solution for **1**.