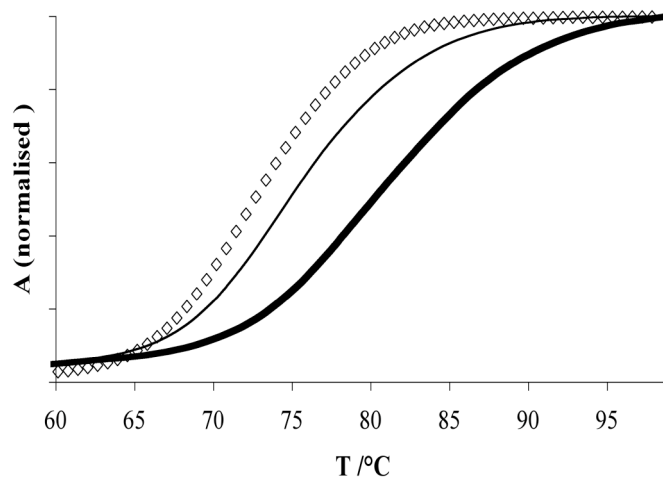
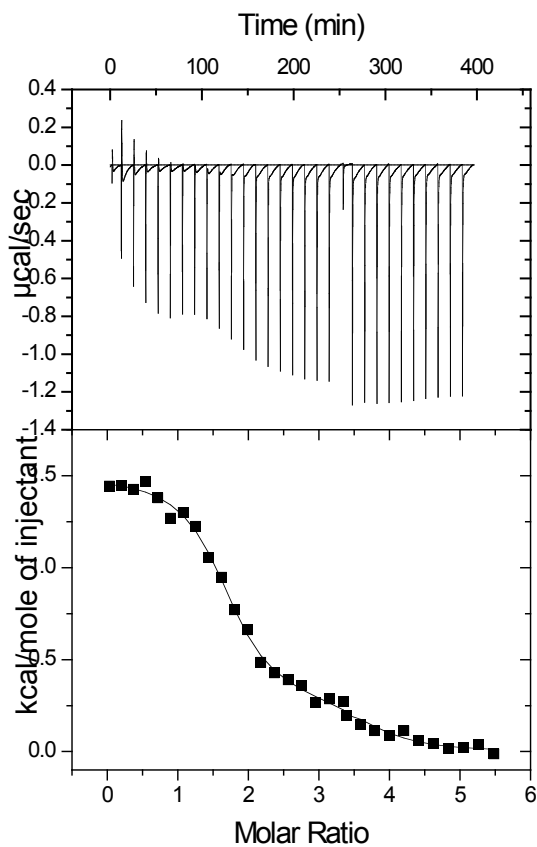


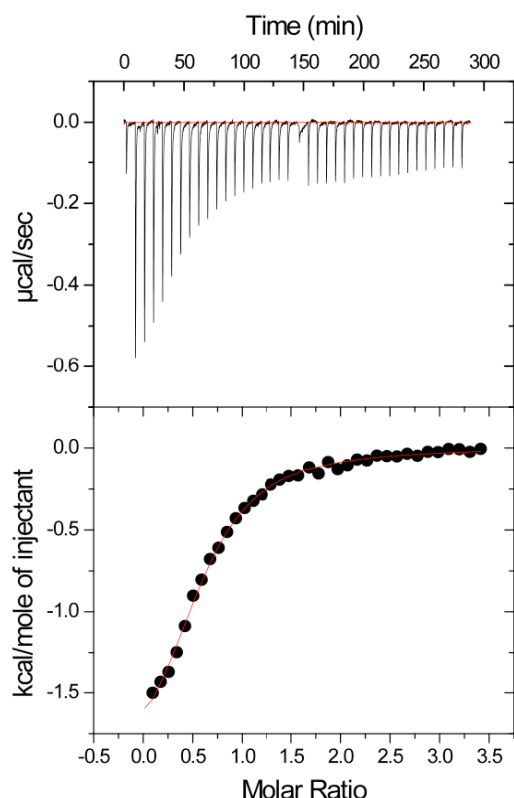
Supplementary Data



S 1 T_m curves for CT-DNA in absence (\diamond) and presence of **2** (bold line), and **3** (light line). Conditions: 50 μ M DNA, 50% of binding sites saturated; 5 mM Tris buffer, 25 mM NaCl, pH 7.0.



S. 2 Typical ITC data for the interaction of **2** (1.60 mM) injected into CT-DNA (0.1 mM) in 5 mM Tris, 25mM NaCl, pH 7.0 at 25 °C.



S. 3 Typical ITC data for the interaction of **1** (0.75 mM) injected into poly(dG-dC)-poly(dG-dC) (0.12 mM) in 5 mM Tris, 25mM NaCl, pH 7.0 at 25 °C.

Synthesis of compounds **2** and **3** and intermediates.

Synthesis of Boc Protected N-(6-aminohexyl)dipyridophenazine-amide. A suspension of dipyrido[3,2-*a*:2',3'-*c*]phenazine-2-carboxylic acid (0.20 g, 0.64 mmol) and 1,1'-carbonylbis[1H-imidazole] (0.16 g, 0.95 mmol) was heated in freshly distilled pyridine at 130 °C for 2 h. A solution of *N*-Boc-1,6-diaminohexane (0.14g, 0.64 mmol) dissolved in pyridine (10 ml), was added dropwise and the resulting mixture was then heated at 100 °C overnight. Once cooled the pyridine was removed *in vacuo*, the residue extracted with aq. sat. NaHCO₃ soln./CH₂Cl₂ and dried over anhydrous MgSO₄. The CH₂Cl₂ was removed *in vacuo* and the residue co-evaporated twice with toluene and CH₂Cl₂. Yield = 0.13 g (39%) of red oil. ¹H NMR (CDCl₃): δ_H = 8.87 (dd, 2H), 8.66 (m, 2H), 7.92 (s, 1H), 7.60 (dd, 1H), 7.60 (m, 1H), 7.39 (m, 1H), 7.27 (m, 1H), 3.48 (m, 2H), 3.15 (m, 2H), 1.43 (m, 8H), 1.25(m, 9H). FAB-MS; *m/z* (%): 525 (100) [MH⁺]. EI⁻-MS; *m/z* (%): 524 (100) [M⁻]. Acc. Mass MS. Calculated for C₃₀H₃₂N₆O₃ [M⁺]: 524.253589, Observed: 524.252611 ± 1.9 ppm.

Synthesis of trifluoroacetate salt of N-(6-aminohexyl)dipyridophenazine-amide, 2.(CF₃COO). Boc Protected N-(6-aminohexyl)dipyridophenazine-amide (0.09 g, 0.17 mmol) was dissolved in TFA/CH₂Cl₂ (v/v, 4 ml) and the resulting solution was stirred at room temperature for 1 h. The dichloromethane and most of the trifluoroacetic acid were removed *in vacuo* to leave a brown oil, which upon scraping and mixing with diethyl ether (2 × 10 ml) yielded a yellow brown solid. The solid was filtered and dried *in vacuo* to afford the TFA salt. Yield = 0.03 g (52%) of yellow powder. ¹H NMR (*d*₄-methanol): δ_H = 9.12 (m, 2H), 8.98 (m, 2H), 8.28 (s, 1H), 8.12 (dd, 1H), 7.93 (d, 1H), 7.77 (m, 2H), 3.02 (t, 2H), 2.93 (t, 2H), 1.78 (m, 4H), 1.57 (m, 2H), 1.45 (m, 2H). FAB-MS; *m/z* (%): 425 (100) [M⁺ - CF₃COO⁻]. Acc. Mass MS Calculated for C₂₇H₂₅N₆O₃ [M⁺ - CF₃COO⁻]: 425.2090. Observed: 425.2093 ± 0.7 ppm. Elemental analysis - C₂₇H₂₅F₃N₆O₃: calculated: C, 60.22; H, 4.68; N, 10.58; found: C, 59.95; H, 4.82; N, 10.84.

Synthesis of dipyrido[3,2-*a*:2',3'-*c*]phenazine-3,6-(*N*-[*N*-(*tert*-Butoxycarbonyl)-6-aminohexyl] -amide)₂ Diisopropylethylamine (DIEA) (0.42 g, 0.56 ml, 3.24 mmol) was added to a suspension of pyrido[3,2-*a*:2',3'-*c*]phenazine-3,6-dicarboxylic acid (0.5 g, 1.35 mmol) and (benzotriazol-1-yloxy)tris(dimethylamino) phosphonium hexafluorophosphate (BOP) (1.3 g, 2.97 mmol) in dimethylformamide (180 ml) and stirred for 60 minutes. *N*-Boc-1,6-diaminohexane (0.58 g, 2.7 mmol) was added and the reaction mixture was stirred for 24 h at room temperature. The crude product was concentrated *in vacuo*, then the residue was dissolved in acetone (50 ml) and added dropwise into a stirred solution of 5 % NaHCO₃ (200 ml). The mixture was allowed to stand for 24 h at room temperature, which afforded a precipitate that was filtered, washed with water and dried *in vacuo*. Yield = 0.63 g (61%) of yellow powder. ¹H NMR (CDCl₃): δ_H = 9.82 (dd, 2H), 8.71 (dd, 2H), 8.48 (dd, 2H), 7.97 (dd, 2H), 3.62 (m, 4H), 3.13 (m, 4H), 2.24 (m, 8H), 1.78 (m, 4H), 1.47 (m, 4H). FAB-MS; *m/z* (%): 767 (100) [MH⁺]. Acc. Mass Calculated for C₄₂H₅₅N₈O₆ [MH⁺]: 767.424457. Observed: 767.431372 ± 9.0 ppm.

2 3.(CF₃COO)₂. dipyrido[3,2-*a*:2',3'-*c*]phenazine-3,6-(*N*-[*N*-(*tert*-Butoxycarbonyl)-6-aminohexyl] -amide)₂ was dissolved in TFA/CH₂Cl₂ (v/v, 4 ml) and the resulting solution was stirred at room temperature for 1 h. The dichloromethane and most of the trifluoroacetic acid was removed *in vacuo* to leave a brown oil, which upon scraping and mixing with diethyl ether (2 x 10 ml) yielded a yellow brown solid. The solid was filtered and dried *in vacuo* to afford the TFA salt. Yield = 0.47 g (96%) of yellow powder. ¹H NMR (*d*₄-methanol): δ_H = 9.65 (dd, 2H), 8.54 (dd, 1H), 8.30 (dd, 2H), 8.04 (dd, 3H), 3.63 (m, 4H), 3.01 (m, 4H), 1.80 (m, 8H), 1.61 (m, 4H), 1.29 (m, 4H). ES⁻-MS; *m/z* (%): 567 (95) [M⁻ - 1 - (CF₃COO)₂], 284 (50) [M²⁻ - (CF₃COO)₂]. Acc. Mass Calculated for C₃₂H₃₉N₈O₆ [M⁻ - 1 - (CF₃COO)₂]: 567.3196. Observed: 567.3175 ± 3.7 ppm. Elemental analysis - C₃₆H₄₀F₆N₈O₆·H₂O: calculated: C, 53.20; H, 5.21; N, 14.03; found: C, 53.33; H, 5.21; N, 13.99.