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Supporting Information

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for

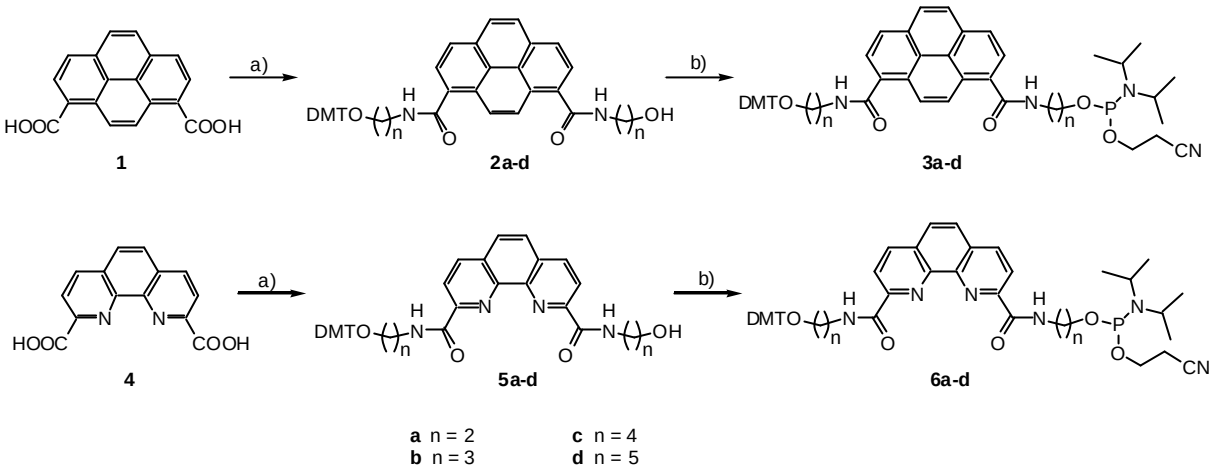
Remarkable Stabilization of Duplex DNA Containing an Abasic Site by Non-Nucleosidic Phenanthroline and Pyrene Building Blocks

Simon M. Langegger and Robert Häner*

Experimental Section

General. Chemicals, solvents, and reagents for reactions were from *Acros*, *Aldrich*, or *Fluka*, and were of the highest quality available. Solvents for extraction and chromatography were of technical grade and distilled prior to use. Thin layer chromatography (TLC): silica-gel 60 F_{254} glass plates (*Merck*); visualisation by UV and/or A) by dipping in a soln. of anisaldehyde (10 mL), conc. H_2SO_4 (10 mL), and AcOH (2 mL) in EtOH (180 mL) or B) cerium (IV) sulfate (3mM)/ammonium molybdate (250 mM in aq. H_2SO_4 (10%) followed by heating. Flash column chromatography (CC): silica gel 60 (40-63 μm, 230-400 mesh, *Fluka*) at low pressure. The chromatography of acid sensitive compounds was carried out with eluent containing 2% NEt_3. ^1H and ^{13}C NMR: *Bruker AC-300*, δ values in ppm (solvents signals as internal standards), *J* [Hz]; ^{31}P NMR: *Bruker AC-300*, δ values in ppm (85% H_3PO_4 as external standard). ESI-MS: *VG Platform* single quadrupole ESI mass spectrometer. DMT: 4,4'-dimethoxytrityl; BOP: (Benzotriazol-1-yloxy)-tris-(dimthylamino)-phosphonium-hexafluorophosphate; AcOEt: ethyl acetate; RT: room temperature; HR-ESI-MS: high resolution electrospray ionisation mass spectrometry.

General Procedures



Preparation of the intermediates 2a-d : 1 eq. pyrene-1,8-dicarboxylic(**1**) acid and 5 eq. *Hünig's* base were solved in dry DMF (concentration of the acid 0.2M), then a solution of 1 eq. $HO(CH_2)_nNH_2$ and 1 eq. $DMTO(CH_2)_nNH_2$ in dry pyridine (concentration of the DMT protected linker 0.5M) was added at RT. After this 2.2 eq of BOP was added and stirred under N_2 atmosphere for 1h.

The mixture was diluted with AcOEt washed with 10% aq. citric acid and sat. aq $NaHCO_3$ soln. The org. layer was dried (K_2CO_3) and evaporated under reduced pressure. Purification of the resulting oil bye CC (silica gel; $CH_2Cl_2 \rightarrow CH_2Cl_2$: MeOH (98: 2) (+2% Et_3N)) furnished as yellow foam.

Preparation of phosphoramidites 3a-d

1 eq. of the DMT protected pyrene was dissolved under a nitrogen atmosphere in dry CH_2Cl_2 and 3 eq. *Hünig's* base. Then 1 eq. of 2-cyanoethyl diisopropylamido-chloridophosphite was added and the mixture was stirred for 1 h at RT. The reaction mixture was directly applied onto silica gel and purified by CC (silica gel; $CH_2Cl_2 \rightarrow$ CH_2Cl_2: MeOH (98:2)(+ 2% Et_3N)). Compounds **3a-d** were obtained as yellow foams.

Pyrene-1,8-dicarboxylic acid 1-({2-[(4,4'dimethoxytrityl)-oxy]-ethyl}-amide) 8-[(2-hydroxy-ethyl)amide] (**2a**). Yield: 28%, yellow foam. TLC (AcOEt): R_f 0.25; ^{1}H NMR (300 MHz, $CDCl_3$): 3.47 (*t*, *J* = 4.7, $ROCH_2$); 3.7-3.85 (*m,* CH_2N, CH_2N'); 3.72 (s, 2MeO); 3.97 (m, CH_2OH); 6.79 (*d*, 4 arom. H); 7.15-8.1 (*m*, 15 arom. H); 8.25 (*m*, 2H). ESI-MS (*pos. mode*): 701 $[M+Na]^+$

Pyrene-1,8-dicarboxylic acid 1-({3-[(4,4'dimethoxytrityl)-oxy]-propyl}-amide) 8-[(2-hydroxy-propyl)amide] (**2b**). Yield: 22%, yellow foam. TLC (AcOEt): R_f 0.25; ^{1}H NMR

(300 MHz, $CDCl_3$): 1.95 (*m*, 2 $CH_2CH_2CH_2$); 3.33 (*t*, *J* = 5.4, $ROCH_2$); 3.55 (*s*, 2MeO); 3.7-3.9 (*m,* CH_2N, CH_2N', CH_2OH); 6.59 (*d*, 4 arom. H); 7.0-7.8 (*m*, 15 arom. H); 8.25 (*m*, 2H). ESI-MS (*pos. mode*): 729 $[M+Na]^+$

Pyrene-1,8-dicarboxylic acid 1-({4-[(4,4'dimethoxytrityl)-oxy]-butyl}-amide) 8-[(2-hydroxy-butyl)-amide] (**2c**). Yield: 20%, yellow foam. TLC (AcOEt): R_f 0.27; ^{1}H NMR (300 MHz, $CDCl_3$): 1.81 (*m*, 2 $CH_2CH_2CH_2CH_2$); 3.14 (*m*, $ROCH_2$); 3.70 (*s*, 2MeO); 3.5-3.8 (*m,* CH_2N, CH_2N', CH_2OH); 6.70 (*d*, 4 arom. H); 7.1-8.0 (*m*, 15 arom. H); 8.29 (*m*, 2H). ESI-MS (*pos. mode*): 757 $[M+Na]^+$

Pyrene-1,8-dicarboxylic acid 1-({5-[(4,4'dimethoxytrityl)-oxy]-pentyl}-amide) 8-[(2-hydroxy-pentyl)amide] (**2d**). Yield: 17%, yellow foam. TLC (AcOEt): R_f 0.36; ^{1}H NMR (300 MHz, $CDCl_3$): 1.69 (*m*, 2 $CH_2CH_2CH_2CH_2CH_2$); 3.11 (*m*, $ROCH_2$); 3.73 (*s*, 2MeO); 3.5-3.8 (*m,* CH_2N, CH_2N', CH_2OH); 6.79 (*d*, 4 arom. H); 7.1-8.0 (*m*, 15 arom. H); 8.23 (*m*, 2H). ESI-MS (*pos. mode*): 785 $[M+Na]^+$

Preparation of phosphoramidites 3a-d: 1 eq. of the DMT protected pyrene was dissolved under a nitrogen atmosphere in dry CH_2Cl_2 and 3 eq. *Hünig's* base. Then 1 eq. of 2-cyanoethyl diisopropylamidochloridophosphite was added and the mixture was stirred for 1 h at RT. The reaction mixture was directly applied onto silica gel and purified by CC (silica gel; $CH_2Cl_2 \rightarrow CH_2Cl_2$: MeOH (98:2)(+ 2% Et_3N)). Compounds **3a-d** were obtained as yellow foams.

Diisopropyl-phosphoramidous acid 2-[(8-{2-[bis-(4,4'dimethoxytrityl)oxy]ethylcarbamoyl}pyrene-1-carbonyl)amino]ethyl ester 2-cyanoethyl ester (**3a**). Yield: 81%, yellow foam. TLC (AcOEt:hexane 6:4 + 2% Et_3N): R_f 0.22; ^{1}H NMR (300 MHz, $CDCl_3$): 1.17 (*d*, *J* = 6.9, 2 *Me*CHN); 2.46 (*t*, *J* = 6.2, CH_2CN); 3.4-4.0 (*m,* CH_2CH_2N, CH_2CH_2N', OCH_2CH_2CN, 2 Me_2CHN); 3.73 (*s*, 2MeO); 6.79 (*d*, 4 arom. H); 7.1-7.5 (*m*, 9 arom. H); 8.0-8.3(*m*, 6 arom. H); 8.64 (*m*, 2H). ^{31}P NMR(162MHz, $CDCl_3$): 148.79. HR-ESI-MS (*pos. mode*): 901.3701 ($[M+Na]^+$; calc. 901.3706)

Diisopropyl-phosphoramidous acid 2-[(8-{3-[bis-(4,4'dimethoxytrityl)oxy]propylcarbamoyl}pyrene-1-carbonyl)amino]propyl ester 2-cyano-ethyl ester (**3b**). Yield: 43%, yellow foam. TLC (AcOEt:hexane 6:4 + 2% Et_3N): R_f 0.24; ^{1}H NMR (300 MHz, $CDCl_3$): 1.03, 1.04 (2d, *J* = 6.8, 2 *Me*CHN); 2.03 (*m*, 2 $CH_2CH_2CH_2$); 2.35 (*m*, CH_2CN); 3.3-3.9 (*m,* $CH_2CH_2CH_2N$, $CH_2CH_2CH_2N'$, OCH_2CH_2CN, 2 Me_2CHN); 3.58 (*s*, 2MeO); 6.59 (*d*, 4 arom. H); 7.0-7.4 (*m*, 9 arom. H); 7.9-8.25 (*m*, 6 arom. H); 8.59

(*m*, 2H). ^{31}P NMR(162MHz, $CDCl_3$): 148.24. HR-ESI-MS (*pos. mode*): 925.4536 ([*M*+Na]$^+$; calc. 925.4543)

Diisopropyl-phosphoramidous acid 2-[(8-{4-[bis-(4,4'dimethoxytrityl)oxy]butylcarbamoyl}pyrene-1-carbonyl)amino]butyl ester 2-cyano-ethyl ester (**3c**). Yield: 61%, yellow foam. TLC (AcOEt:hexane 6:4 + 2% Et_3N): R_f 0.42; ^{1}H NMR (300 MHz, $CDCl_3$): 1.04, 1.05 (2d, *J* = 6.6, 2 *Me*CHN); 1.82 (*m*, 2 $CH_2CH_2CH_2CH_2$); 2.50 (*t*, *J* = 6.3, CH_2CN); 3.1-3.8 (*m, CH*$_2$CH$_2$CH$_2$C*H*$_2$N, C*H*$_2$CH$_2$CH$_2$C*H*$_2$N', OC*H*$_2$CH$_2$CN, 2 Me$_2$C*H*N); 3.70 (*s*, 2MeO); 6.71 (*d*, 4 arom. H); 7.1-7.5 (*m*, 9 arom. H); 7.9-8.25(*m*, 6 arom. H); 8.57 (*m*, 2H). ^{31}P NMR(162MHz, $CDCl_3$): 147.71. ESI-MS (*pos. mode*): 952 [*M*+NH_4]$^+$

Diisopropyl-phosphoramidous acid 2-[(8-{5-[bis-(4,4'dimethoxytrityl)oxy]pentylcarbamoyl}pyrene-1-carbonyl)amino]pentyl ester 2-cyano-ethyl ester (**3d**). Yield: 68%, yellow foam. TLC (AcOEt:hexane 6:4 + 2% Et_3N): R_f 0.94. ^{1}H NMR (300 MHz, $CDCl_3$): 1.17, 1.18 (2*d*, *J* = 6.7, 2 *Me*CHN); 1.72 (*m*, 2 $CH_2CH_2CH_2CH_2CH_2$); 2.63 (*m*, CH_2CN); 3.0-3.9 (*m, CH*$_2$CH$_2$CH$_2$CH$_2$C*H*$_2$N, *CH*$_2$CH$_2$CH$_2$CH$_2$C*H*$_2$N', OC*H*$_2$CH$_2$CN, 2 Me$_2$C*H*N); 3.77 (*s*, 2MeO); 6.81 (*d*, 4 arom. H); 7.1-7.5 (*m*, 9 arom. H); 7.9-8.25(*m*, 6 arom. H); 8.55 (*m*, 2H). ^{31}P NMR(162MHz, $CDCl_3$): 147.35. HR-ESI-MS (*pos. mode*): 963.4828 ([*M*+Na]$^+$; calc. 963.4825)

Preparation of the intermediates 5a-d

1 eq. [1,10]Phenanthroline-2,9-dicarboxylic acid (**4**) and 5 eq. *Hünig's* base were dissolved in dry DMF (concentration of the acid was 0.2M); then a solution of 1 eq. $HO(CH_2)_nNH_2$ and 1 eq. $DMTO(CH_2)_nNH_2$ in dry pyridine(concentration of the DMT protected linker 0.5M) was added at RT. After this, 2.2 eq of BOP was added and the mixture was stirred under a nitrogen atmosphere for 1h.

The mixture was diluted with AcOEt, washed with 10% *aq.* citric acid and *sat. aq* $NaHCO_3$ *soln.* The org. layer was dried (K_2CO_3) and evaporated under reduced pressure. Purification of the resulting oil bye CC (silica gel; AcOEt→ AcOEt: MeOH (95: 5) (+2% Et_3N)) furnished **5a-d** as light yellow foams.

[1,10]Phenanthroline-2,9-dicarboxylic acid 2-({2-[bis-(4-methoxyphenyl)phenylmethoxy]ethyl}amide) 9-[(2-hydroxyethyl)amide] (**5a**). Yield: 28%. TLC (AcOEt): R_f 0.2; ^{1}H NMR (300 MHz, $CDCl_3$): 3.29 (*m*, $ROCH_2$); 3.45 (*m,* CH_2N, CH_2N'); 3.65 (*s*, 2MeO); 3.84 (m, C*H*$_2$OH); 6.72 (*d*, 4 arom. H); 7.1-7.5 (*m*, 9 arom. H); 7.94 (*s*, 2 arom H);

8.46 (*m*, 2 arom. H); 8.56 (*m*, 2 arom. H); 9.09 (*t*, *J* = 6.6, NH); 9.30 (*t*, *J* = 5.4, N'H). ESI-MS (*pos. mode*): 679 $[M+Na]^+$

[1,10]Phenanthroline-2,9-dicarboxylic acid 2-({3-[bis-(4-methoxyphenyl)phenylmethoxy]propyl}amide) 9-[(3-hydroxypropyl)amide] (**5b**). Yield: 27%. TLC (AcOEt): R_f 0.2; ^{1}H NMR (300 MHz, $CDCl_3$): 1.81 (*m*, $CH_2CH_2CH_2OR$); 2.07 (*m*, $CH_2CH_2CH_2OH$); 3.25 (*t*, *J* = 5.9, $ROCH_2$); 3.34 (*m*, OH); 3.66 (*s*, 2MeO); 3.65-3.85 (*m,* CH_2N, CH_2N', CH_2OH); 6.73 (*d*, 4 arom. H); 7.1-7.5 (*m*, 9 arom. H); 7.80 (*m*, 2 arom. H); 8.29 (*m*, 1 arom. H); 8.38 (*m*, 1 arom. H); 8.54 (*m*, 2 arom. H); 8.87 (*t*, *J* = 5.8, NH); 9.27 (*t*, *J* = 5.7, N'H). ESI-MS (*pos. mode*): 707 $[M+Na]^+$

[1,10]Phenanthroline-2,9-dicarboxylic acid 2-({4-[bis-(4-methoxyphenyl)phenylmethoxy]butyl}amide) 9-[(4-hydroxybutyl)amide] (**5c**). Yield: 26%. TLC (AcOEt): R_f 0.23; ^{1}H NMR (300 MHz, $CDCl_3$): 1.7 (*m*, 2 $CH_2CH_2CH_2CH_2$); 3.14 (*m*, $ROCH_2$); 3.61 (m, 3.70, CH_2N, CH_2N') 3.76 (*s*, 2MeO); 3.7-3.8 (*m,* , CH_2OH); 6.79 (*d*, 4 arom. H); 7.15-7.45 (*m*, 9 arom. H); 7.90 (*s*, 2 arom. H); 8.45 (*m*, 2 arom. H); 8.58 (*m*, 1 arom. H); 8.65 (*m*, 1 arom. H); 9.19 (*t*, *J* = 5.7, NH); 9.34 (*t*, *J* = 5.7, N'H). ESI-MS (*pos. mode*): 735 $[M+Na]^+$

[1,10]Phenanthroline-2,9-dicarboxylic acid 2-({5-[bis-(4-methoxyphenyl)phenylmethoxy]pentyl}amide) 9-[(5-hydroxypentyl)amide] (**5d**). Yield: 23%. TLC (AcOEt): R_f 0.24; ^{1}H NMR (300 MHz, $CDCl_3$): 1.65 (*m*, 2 $CH_2CH_2CH_2CH_2CH_2$); 3.08 (*m*, $ROCH_2$); 3.5-3.7 (*m,* CH_2N, CH_2N', CH_2OH); 3.75 (*s*, 2MeO); 6.79 (*d*, 4 arom. H); 7.1-7.45 (*m*, 9 arom. H); 7.93 (*s*, 2 arom. H); 8.44 (*m*, 2 arom. H); 8.62 (*m*, 2 arom. H); 8.99 (*t*, NH); 9.06 (*t*, N'H). ESI-MS (*pos. mode*): 763 $[M+Na]^+$

Preparation of phosphoramidites 6a-d

1 eq. of the DMT protected phenanthroline was dissolved in dry CH_2Cl_2 containing 3 eq. of *Hünig's* base. Then 1 eq. of 2-cyanoethyl diisopropylamidochloridophosphite was added under a nitrogen atmosphere and the mixture was stirred for 1 h at RT. The reaction mixture was directly applied onto silica gel and purified by CC (silica gel; AcOEt:hexane (3:7)→ AcOEt:hexane (7:3)(+ 2% Et_3N)). Compounds **6a-d** were obtained as light yellow foams.

Diisopropyl-phosphoramidous acid 2-[(9-{2-[bis-(4-methoxyphenyl)phenylmethoxy]-ethylcarbamoyl}-[1,10]phenanthroline-2-carbonyl)amino]ethyl ester 2-cyanoethyl ester (**6a**). Yield: 70%. TLC (AcOEt:hexane 2:1 + 2% Et_3N): R_f 0.27; ^{1}H NMR (300

MHz,$CDCl_3$): 1.10, 1.12 (2*d*, *J* = 6.8, 2 *Me*CHN); 2.47 (*t*, *J* = 6.2, CH_2CN); 3.35-3.9 (*m,* CH_2CH_2N, CH_2CH_2N', OCH_2CH_2CN, 2 Me_2CHN); 3.70 (*s*, 2MeO); 6.73 (*d*, 4 arom. H); 7.1-7.5 (*m*, 9 arom. H); 7.94 (*s*, 2 arom. H); 8.45 (*m*, 2 arom. H); 8.59 (*m*, 2 arom. H); 8.78 (*t*, *J* = 6.0, NH); 9.00 (*t*, *J* = 6.3, N'H). ^{31}P NMR (162 MHz, $CDCl_3$): 148.23. HR-ESI-MS (*pos. mode*): 857.3813 ($[M+H]^+$; calc. 857.3791)

Diisopropyl-phosphoramidous acid 3-[(9-{3-[bis-(4-methoxyphenyl)phenylmethoxy]-propylcarbamoyl}-[1,10]phenanthroline-2-carbonyl)amino]propyl ester 2-cyanoethyl ester (**6b**). Yield: 76%. TLC (AcOEt:hexane 7:3 + 2% Et_3N): R_f 0.28; ^1H NMR (300 MHz, $CDCl_3$): 1.11, 1.13 (2*d*, *J* = 6.7, 2 *Me*CHN); 2.03 (*m*, 2 $CH_2CH_2CH_2$); 2.49 (*t*, *J* = 6.4, CH_2CN); 3.25 (*m*, CH_2ODMT) 3.3-3.9 (*m,* $CH_2CH_2CH_2N$, $CH_2CH_2CH_2N'$, OCH_2CH_2CN, 2 Me_2CHN); 3.65 (*s*, 2MeO); 6.74 (*d*, 4 arom. H); 7.1-7.5 (*m*, 9 arom. H); 7.93 (*s*, 2 arom. H); 8.44 (*m*, 2 arom. H); 8.59 (*m*, 2 arom. H, NH, N'H). ^{31}P NMR(162MHz, $CDCl_3$): 147.78. HR-ESI-MS (*pos. mode*): 925.3943 ($[M+Na]^+$; calc. 907.3924)

Diisopropyl-phosphoramidous acid 4-[(9-{4-[bis-(4-methoxyphenyl)phenylmethoxy]-butylcarbamoyl}-[1,10]phenanthroline-2-carbonyl)amino]butyl ester 2-cyanoethyl ester (**6c**). Yield: 63%. TLC (AcOEt:hexane 7:3 + 2% Et_3N): R_f 0.31; ^1H NMR (300 MHz, $CDCl_3$): 1.14, 1.15 (2*d*, *J* = 6.8, 2 *Me*CHN); 1.79 (*m*, 2 $CH_2CH_2CH_2CH_2$); 2.56 (*t*, *J* = 6.4, CH_2CN); 3.14 (*m*, CH_2ODMT); 3.5-3.9 (*m,* $CH_2CH_2CH_2CH_2N$, $CH_2CH_2CH_2CH_2N'$, OCH_2CH_2CN, 2 Me_2CHN); 3.76 (*s*, 2MeO); 6.79 (*d*, 4 arom. H); 7.15-7.45 (*m*, 9 arom. H); 7.93 (*s*, 2 arom. H); 8.44 (*m*, 2 arom. H); 8.61 (*m*, 2 arom. H, NH, N'H). ^{31}P NMR(162MHz, $CDCl_3$): 147.59. HR-ESI-MS (*pos. mode*): 913.4430 ($[M+H]^+$; calc. 913.4417).

Diisopropyl-phosphoramidous acid 5-[(9-{5-[bis-(4-methoxyphenyl)phenylmethoxy]-pentylcarbamoyl}-[1,10]phenanthroline-2-carbonyl)amino]pentyl ester 2-cyanoethyl ester (**6d**). Yield: 67%. TLC (AcOEt:hexane 8:2 + 2% Et_3N): R_f 0.35. ^1H NMR (300 MHz, $CDCl_3$): 1.12, 1.13 (2*d*, *J* = 6.7, 2 *Me*CHN); 1.7 (*m*, 2 $CH_2CH_2CH_2CH_2CH_2$); 2.54 (*t*, *J* = 6.4 CH_2CN); 3.07 (*t*, *J* = 6.4, CH_2DMT); 3.4-3.9 (*m,* $CH_2CH_2CH_2CH_2CH_2N$, $CH_2CH_2CH_2CH_2CH_2N'$, OCH_2CH_2CN, 2 Me_2CHN); 3.75 (*s*, 2MeO); 6.78 (*d*, 4 arom. H); 7.1-7.45 (*m*, 9 arom. H); 7.93(*m*, 2 arom. H); 8.44 (*m*, 2 arom. H); 8.59 (*m*, 2 arom. H, NH, N'H). ^{31}P NMR (162 MHz, $CDCl_3$): 147.54. ESI-MS (*pos. mode*): 958 $[M+NH_4]^+$.

Oligonucleotide Synthesis

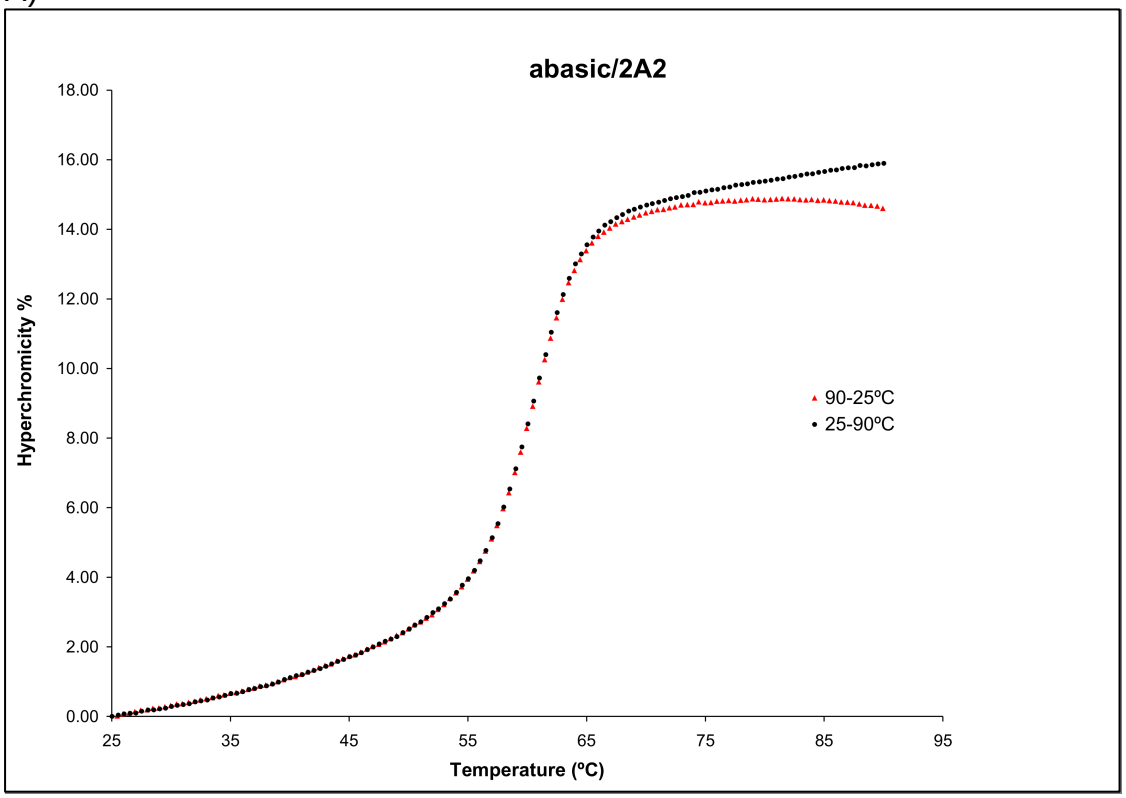
Phenanthroline- and pyrene-derived phosphoramidite building blocks **6a-d**, **3a-d** were incorporated into oligonucleotides *via* standard automated oligonucleotide synthesis using I_2/pyridine/water in the oxidation step. Coupling yields with **6a-d** and **3a-d** were equal to the ones obtained with standard phosphoramidite building blocks. All oligonucleotides were purified by reverse phase HPLC and characterised by MS (Table S1).

Table S1. *Molecular weights of oligonucleotides used in this study (electrospray ionisation time-of-flight, ESI-TOF)*

#	oligonucleotide	calculated for $[M\text{-H}]^-$	found
I	5‘ AGC TCG GTC A f C GAG AGT GCA	6346.0	6346.2
II	3‘ TCG AGC CAG T**2A2**G CTC TCA CGT	6484.5	6484.5
III	3‘ TCG AGC CAG T**3A3**G CTC TCA CGT	6512.5	6512.5
IV	3‘ TCG AGC CAG T**4A4**G CTC TCA CGT	6540.5	6540.6
V	3‘ TCG AGC CAG T**5A5**G CTC TCA CGT	6568.5	6568.7
VI	3‘ TCG AGC CAG T**2B2**G CTC TCA CGT	6506.5	6506.5
VII	3‘ TCG AGC CAG T**3B3**G CTC TCA CGT	6534.5	6534.4
VIII	3‘ TCG AGC CAG T**4B4**G CTC TCA CGT	6562.5	6562.4
IX	3‘ TCG AGC CAG T**5B5**G CTC TCA CGT	6590.5	6590.3

Figure S1. *Melting curves of different hybrids. Conditions: oligomer concentration 1.0 µM, 10 mM Tris-HCl, 100 mM NaCl, pH 7.4; temp. gradient: 0.5°C/min. Exptl. error: ± 0.5°C. Absorbance was measured at 260nm.* ***A****) duplex* ***I*II****,* ***B****) duplex* ***I*III****;* ***C****) duplex* ***I*IV****;* ***D****) duplex* ***I*V****;* ***E****) duplex* ***I*VI****;* ***F****) duplex* ***I*VII****;* ***G****) duplex* ***I*VIII****;* ***H****) duplex* ***I*iX.***

A)



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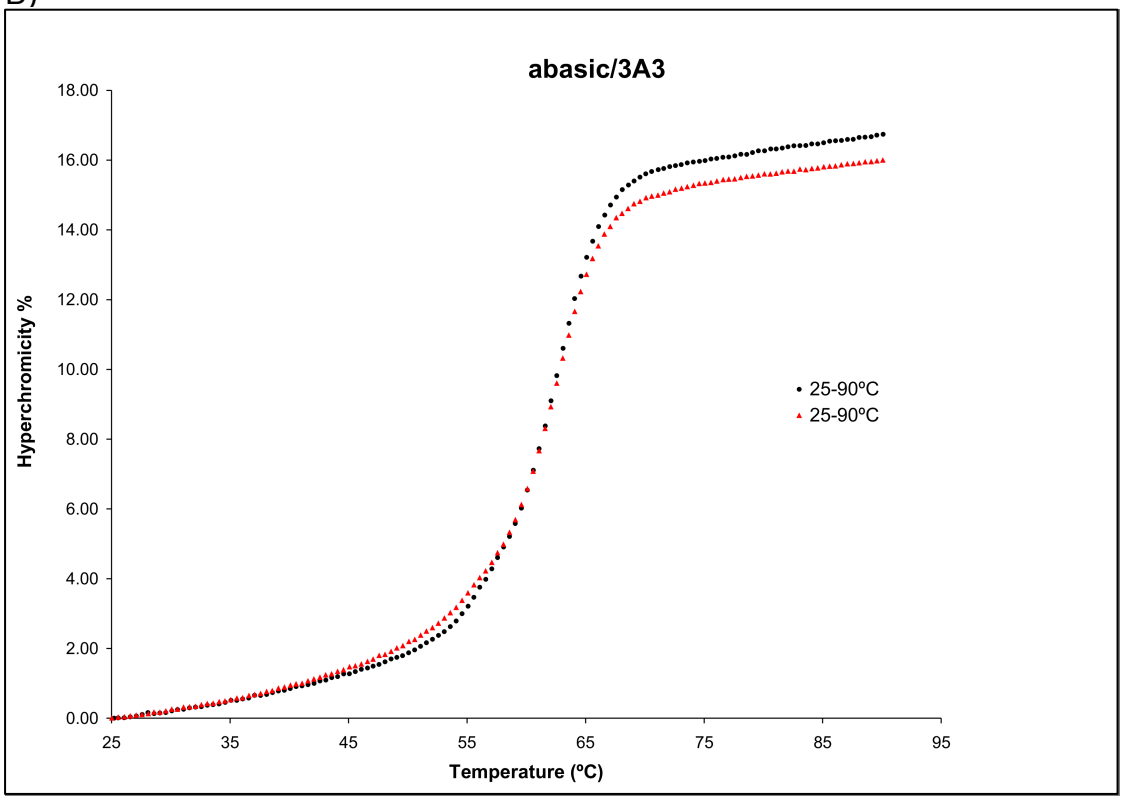

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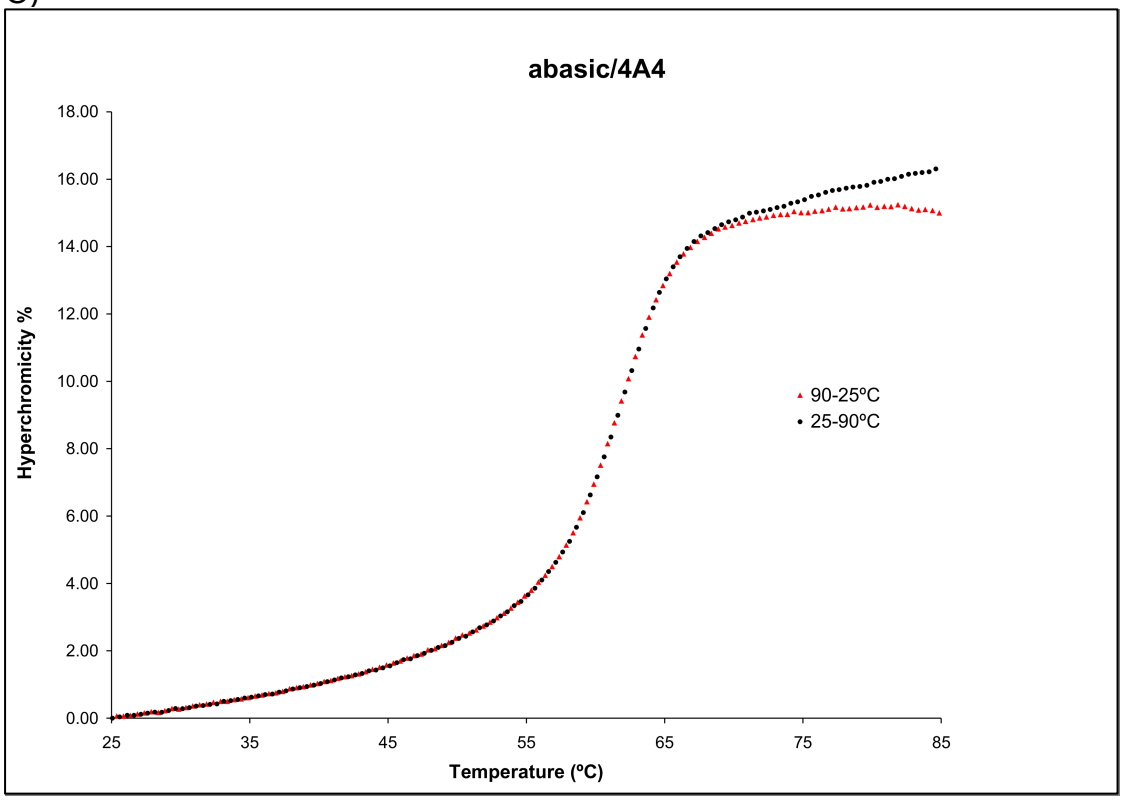
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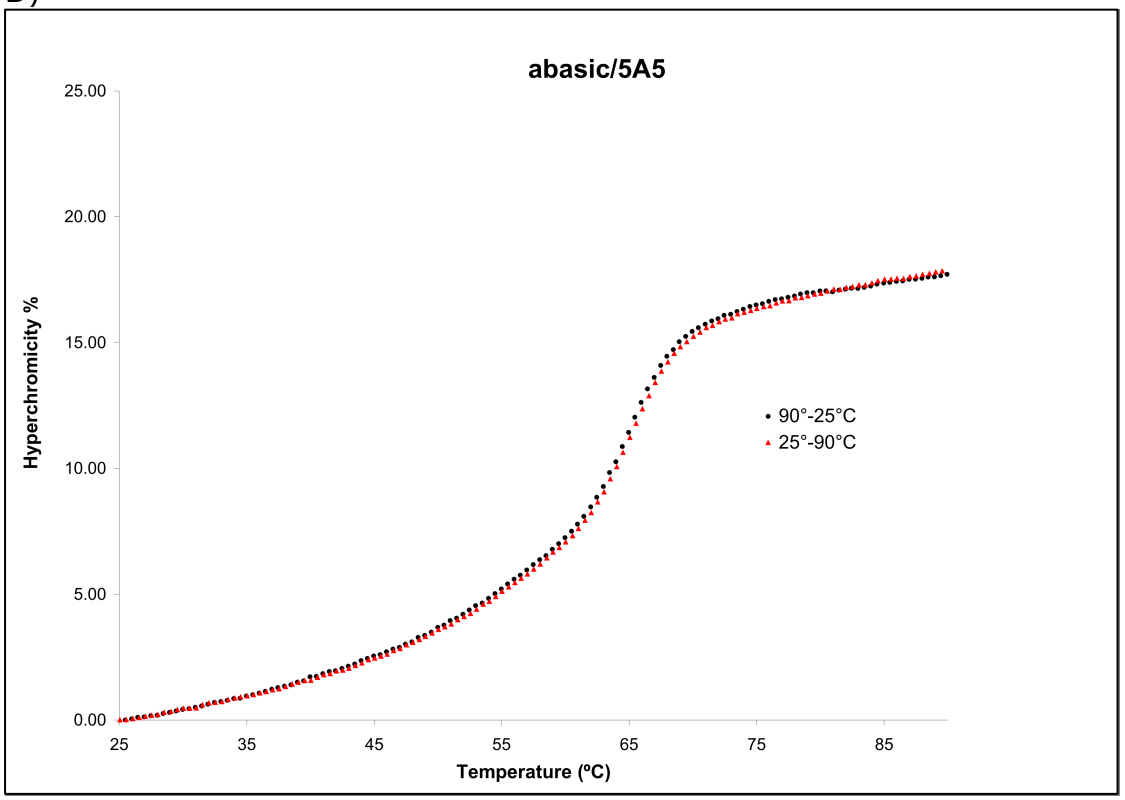
D)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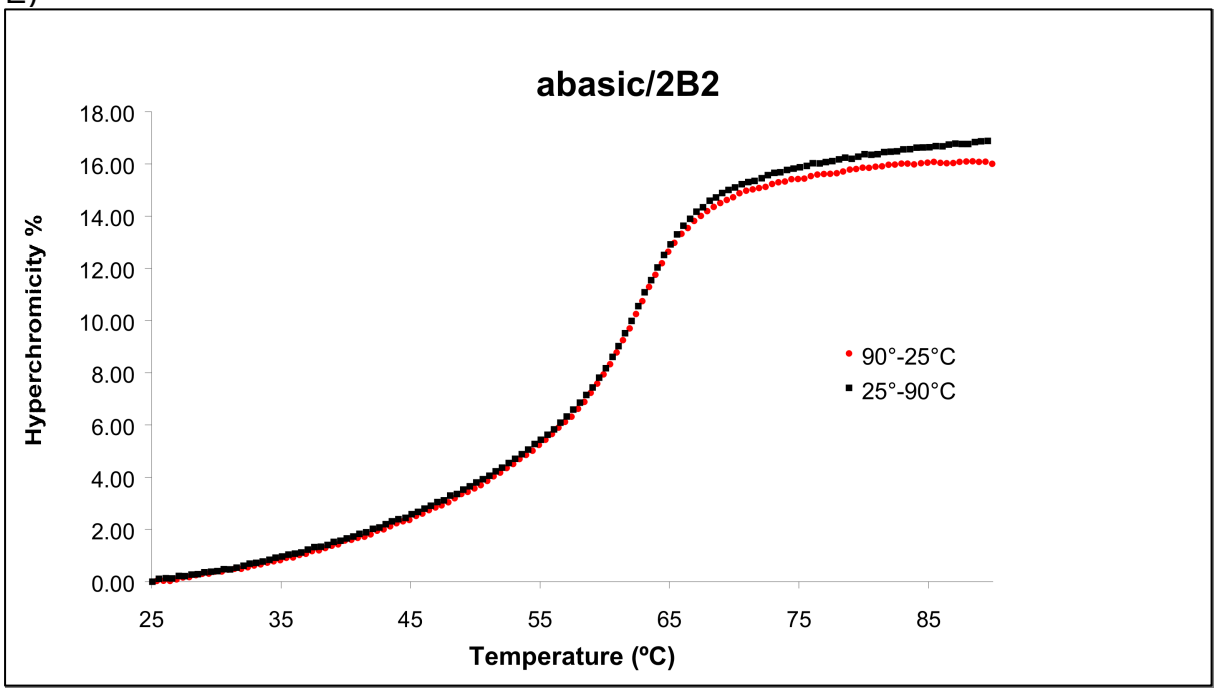
E)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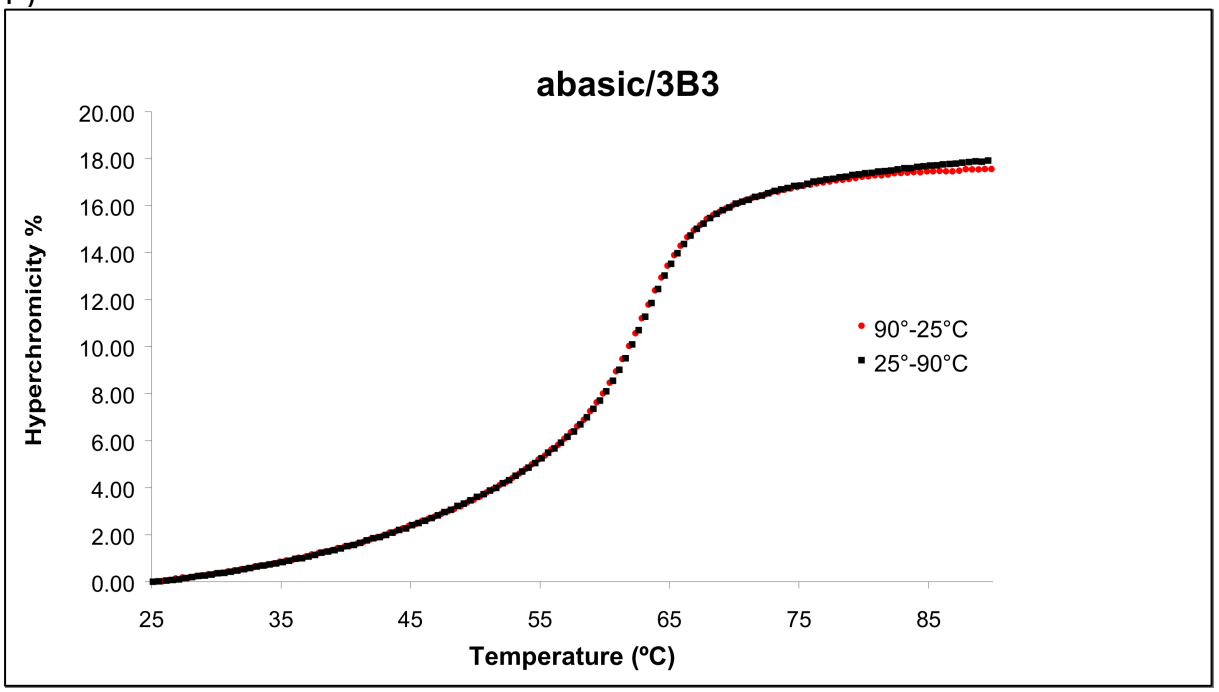
F)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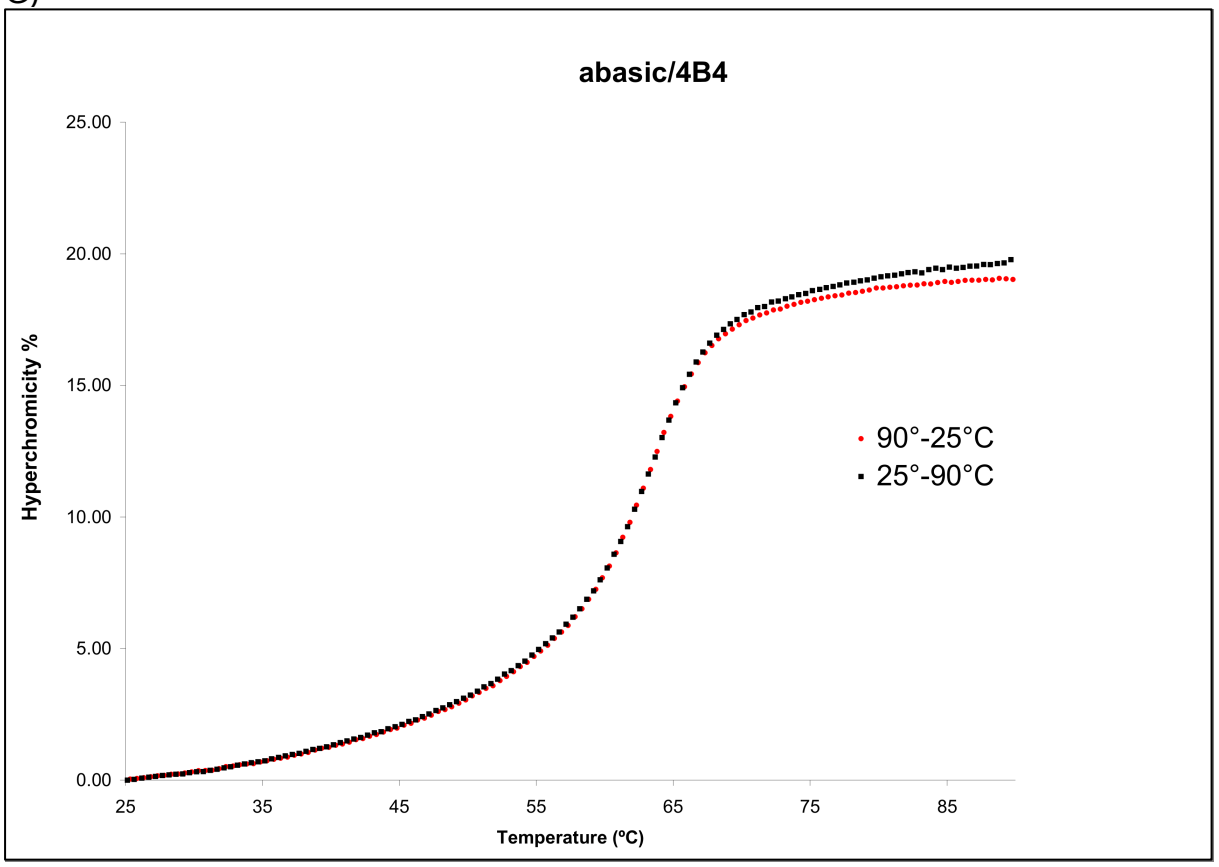
0.00
25
35
45
55
65
75
85
Temperature (ºC)
90°-25°C
25°-90°C

G)


abasic/4B4
25.00
20.00
15.00
10.00
5.00
0.00
Hyperchromicity %
25
35
45
55
65
75
85
Temperature (ºC)
90°-25°C
25°-90°C

H)

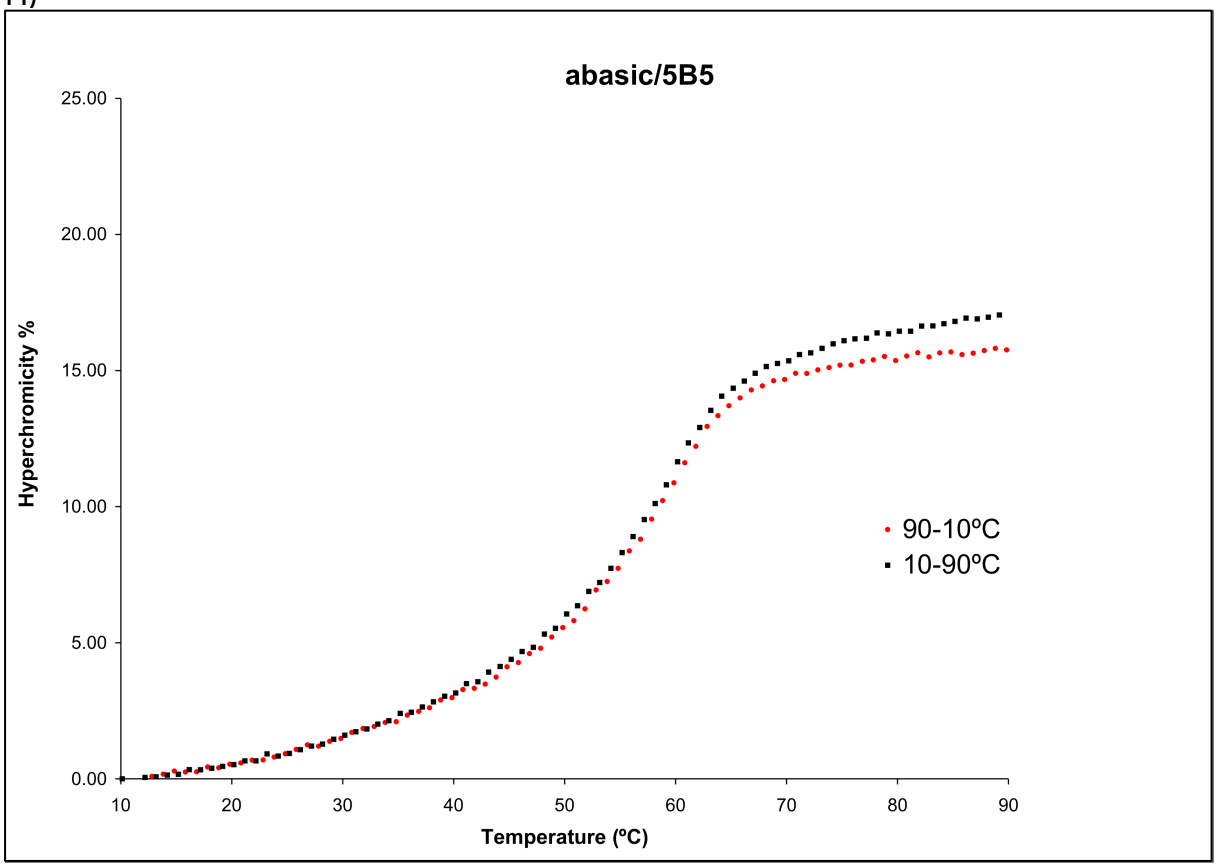

abasic/5B5
25.00
20.00
15.00
10.00
5.00
0.00
Hyperchromicity %
10
20
30
40
50
60
70
80
90
Temperature (ºC)
90-10ºC
10-90ºC

***Figure S2**. Comparison of thermal denaturation curves of the duplex containing the phenanthroline building block with pentamethylene linkers (closed circles) or an adenosine (open circles) opposite to the abasic site. (Conditions: see Figure S1.)*