

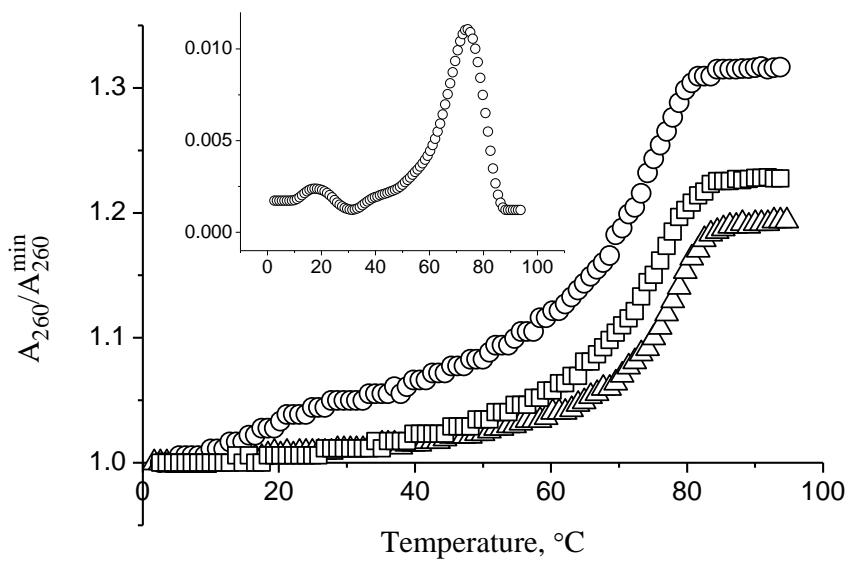
Supplementary Table ST1. Microarray hybridisation data.

<b><i>h1</i></b>				<b><i>h2</i></b>			
0.059	0.010	0.328	0.313	0.012	0.048	0.178	0.178
-0.086	-0.075	0.071	-0.038	-0.103	-0.072	-0.014	-0.026
0.015	0.072	0.066	0.111	-0.025	0.012	0.032	0.108
<b><i>h3</i></b>				<b><i>h4</i></b>			
0.096	0.071	0.767	0.652	0.075	0.060	0.311	0.345
-0.071	-0.059	0.103	0.133	-0.066	-0.072	0.054	0.181
0.082	0.223	-0.053	-0.073	0.052	0.158	-0.051	-0.066
<b><i>h5</i></b>				<b><i>h6</i></b>			
0.035	-0.013	0.090	0.076	-0.014	-0.002	0.093	0.090
-0.028	-0.041	0.030	0.090	-0.042	-0.052	-0.007	-0.030
0.454	-0.010	0.051	-0.006	0.032	1.562	-0.009	-0.022

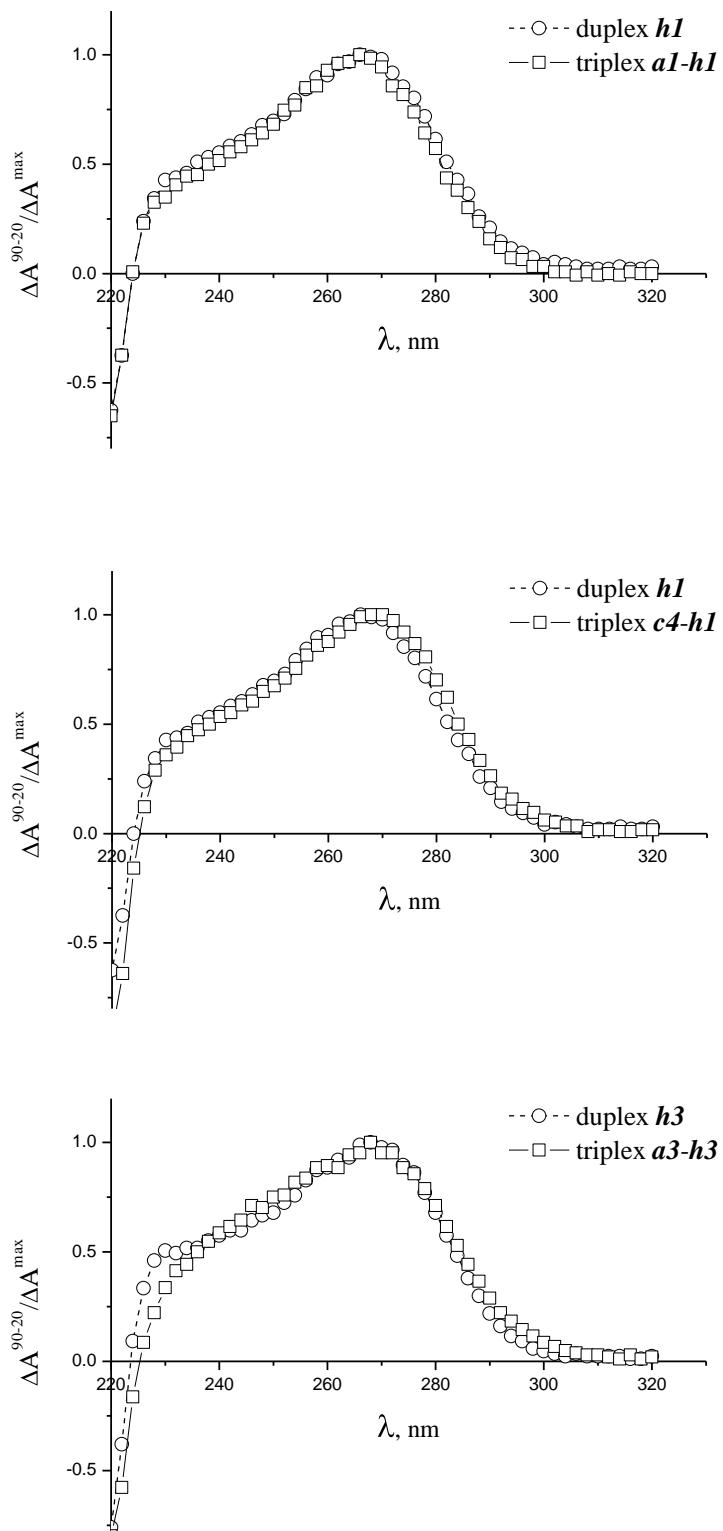
Supplementary Table ST2. Triplex formation by probes ***a1-a4*** and ***b1-b4*** with hairpins ***h1-h4***.  
Quantitation of triplex bands (%) in non-denaturing PAGE.

	<b><i>a1</i></b>	<b><i>a2</i></b>	<b><i>a3</i></b>	<b><i>a4</i></b>	<b><i>b1</i></b>	<b><i>b2</i></b>	<b><i>b3</i></b>	<b><i>b4</i></b>
<b><i>h1</i></b>	70	63	68	23	0	5	49	6
<b><i>h2</i></b>	58	92	62	br*	0	0	83	0
<b><i>h3</i></b>	9	13	62	85	8	7	6	7
<b><i>h4</i></b>	4	8	98	96	12	11	20	15

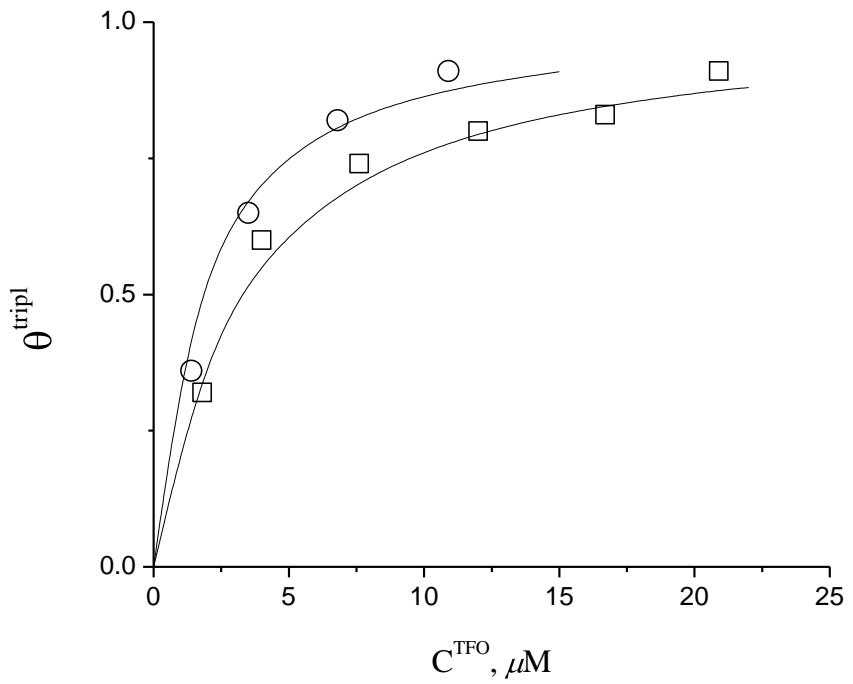
\* broad unresolved band



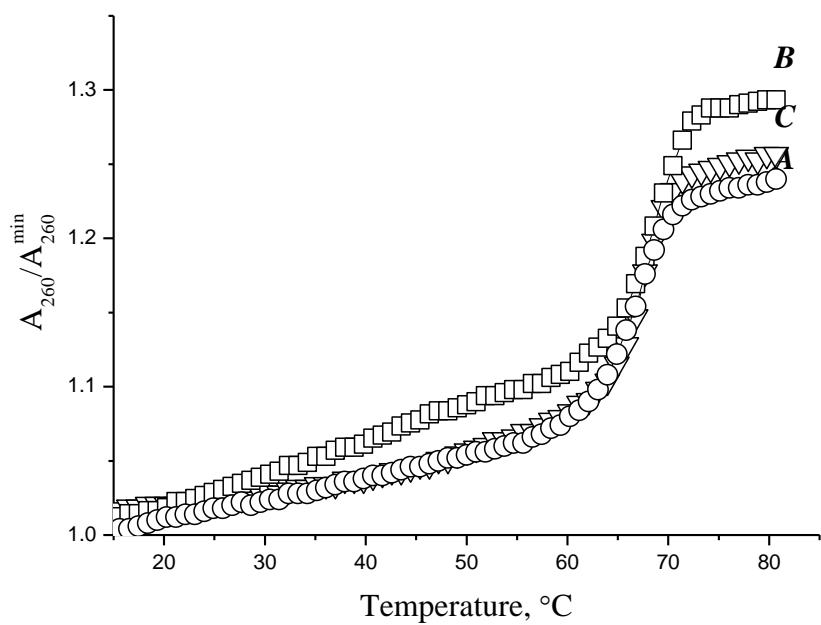
Supplementary Figure SF1. UV melting profiles of chimeric tripleplexes **a1-h1** (circles), **c4-h1** (squares) and **a3-h3** (triangles) in 0.1 M TBE and 30 mM MgCl<sub>2</sub> and a plot of the first derivative for triplex **a1-h1**.



Supplementary Figure SF2. Normalized thermal difference spectra (90 vs. 20°C) for triplexes **a1-h1**, **c4-h1** and **a3-h3** and underlying duplexes **h1** and **h3**.



Supplementary Figure SF3. Binding curves for triplex  $A$  (circles) and for mixed triplex  $A^{\text{dupl}}B^{\text{TFO}}$  (squares).



Supplementary Figure SF4. UV melting profiles of chimeric triplexes **A**, **B** and **C** in 0.1 M TBE and 30 mM MgCl<sub>2</sub>.