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Supplemental Material

Figure S1. (a): MPE•Fe(II) footprinting on a 3'-³²P-labeled 254 bp *EcoRI/PvuII* restriction fragment from plasmid pJK8. The 5'-TGTTAACA-3' and 5'-TGTGAACA-3' sites are shown on the right side of the autoradiograms. Lane 1, intact DNA; lane 2, A reaction; lane 3, G reaction; lane 4, MPE•Fe(II) standard; lane 5, 1 μM 2, 3, 6, or 8; lane 6, 2 μM 2, 3, 6, or 8; lane 7, 5 μM 2, 3, 6, or 8; lane 8, 10 μM 2, 3, 6, or 8; lane 9, 50 μM 8. All lanes contain 15 kcpm 3'-radiolabeled DNA and 25 mM Tris-acetate buffer (pH 7.0), 10 mM NaCl, and 100 μM/base pair calf thymus DNA. (b): Results from MPE•Fe(II) footprinting of ImPyPyPy-β-Py-γ-Im-β-PyPyPyPy-β-Dp, ImPyPy-β-PyPy-γ-ImPy-β-PyPyPy-β-Dp, Im-β-PyPyPyPy-γ-Im-β-PyPyPyPy-β-Dp, and ImPy-β-β-PyPy-γ-ImPy-β-β-PyPy-β-Dp. Boxes represent equilibrium binding sites determined by the published model. Only sites that were quantitated by DNase I footprint titrations are boxed. Bar heights are proportional to the relative protection from cleavage at each band.

Supplemental Material

Figure S2. Quantitative DNase I footprint titration experiment with Im- β -ImPy- γ -Im- β -ImPy- β -Dp (**12**) on the 282 bp *EcoRI/PvuII* restriction fragment from plasmid pSES9hp^{1b}: lane 1, intact DNA; lane 2, A reaction; lane 3, DNase I standard; lanes 4-14, 50 pM, 100 pM, 150 pM, 250 pM, 400 pM, 650 pM, 1 nM, 1.5 nM, 2.5 nM, 4 nM and 6.5 nM Im- β -ImPy- γ -Im- β -ImPy- β -Dp. The 5'-TGGCCA-3', 5'-TGCGCA-3', and 5'-TGGGGA-3' sites that were analyzed are shown on the right side of the autoradiogram. All reactions contain 20 kcpm restriction fragment, 10 mM Tris•HCl (pH 7.0), 10 mM KCl, 10 mM MgCl₂ and 5 mM CaCl₂.

Supplemental Material

Figure S3. (a): MPE•Fe(II) footprinting experiments¹² on the 3′-³²P-labeled 263 bp *EcoRI/PvuII* restriction fragment from plasmid pSES11. The 5′-TGCGCA-3′ match site is shown on the right side of the autoradiogram. Lanes 1-3, 1 μM, 2 μM and 5 μM ImPyImPy-γ-ImPyImPy-β-Dp (**11**); lanes 4-6, 1 μM, 2 μM and 5 μM Im-β-ImPy-γ-Im-β-ImPy-β-Dp (**12**); lane 7, MPE•Fe(II) standard. All lanes contain 15 kcpm 3′-radiolabeled DNA, 25 mM Tris-acetate buffer (pH 7.0), 10 mM NaCl, and 100 μM/base pair calf thymus DNA. (b): MPE•Fe(II) protection patterns for polyamides **11** and **12** at 5 μM concentration. Bar heights are proportional to the relative protection from cleavage at each band. Putative binding sites are boxed. (Top) Illustration of the 263 bp restriction fragment with the position of the sequence indicated. The plasmid pSES11 was constructed by hybridization of the inserts 5′-GATCCTATGTCAGTCATGTACATGACTGTCAGTCATGCGCATGACTGTCAGTCTTAAGC-3′ and 5′-AGCTGCTTAAGACTGACAGTCATGCGCATGACTGACAGTCATGTACATGACTGACAGAT-3′. The hybridized insert was ligated into linearized pUC19 *Bam*HI/*Hind*III plasmid as previously described.^{1b}

a)

2 ImPyPyPy-β-PyPy-γ-Im-β-PyPyPyPy-β-Dp

5' -GCGAGCTCATTTGTTAACAGCGAGCTCATTTGTGAACAGCGAGCTCAT-3'
 3' -CGCTCGAGTAAACAATTGTCGCTCGAGTAAACACTTGTTCGCTCGAGTA-5'

3 ImPyPy-β-PyPy-γ-ImPy-β-PyPyPy-β-Dp

5' -GCGAGCTCATTTGTTAACAGCGAGCTCATTTGTGAACAGCGAGCTCAT-3'
 3' -CGCTCGAGTAAACAATTGTCGCTCGAGTAAACACTTGTTCGCTCGAGTA-5'

6 Im-β-PyPyPyPy-γ-Im-β-PyPyPyPy-β-Dp

5' -GCGAGCTCATTTGTTAACAGCGAGCTCATTTGTGAACAGCGAGCTCAT-3'
 3' -CGCTCGAGTAAACAATTGTCGCTCGAGTAAACACTTGTTCGCTCGAGTA-5'

8 ImPy-β-β-PyPy-γ-ImPy-β-β-PyPy-β-Dp

5' -GCGAGCTCATTTGTTAACAGCGAGCTCATTTGTGAACAGCGAGCTCAT-3'
 3' -CGCTCGAGTAAACAATTGTCGCTCGAGTAAACACTTGTTCGCTCGAGTA-5'

b)

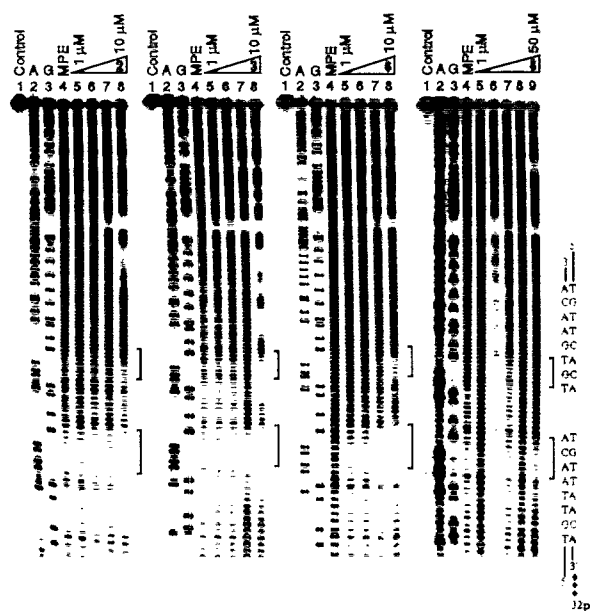


Figure S1

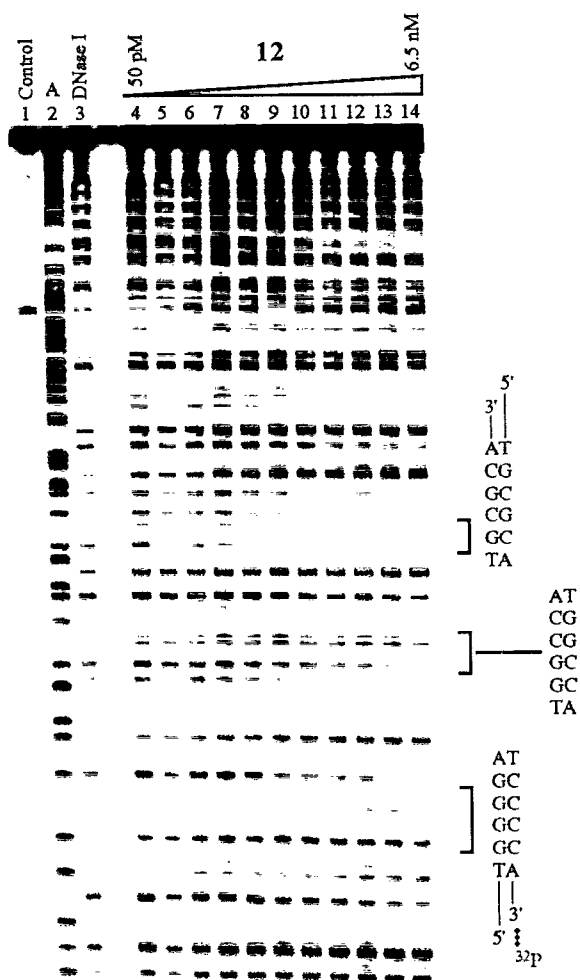


Figure S2

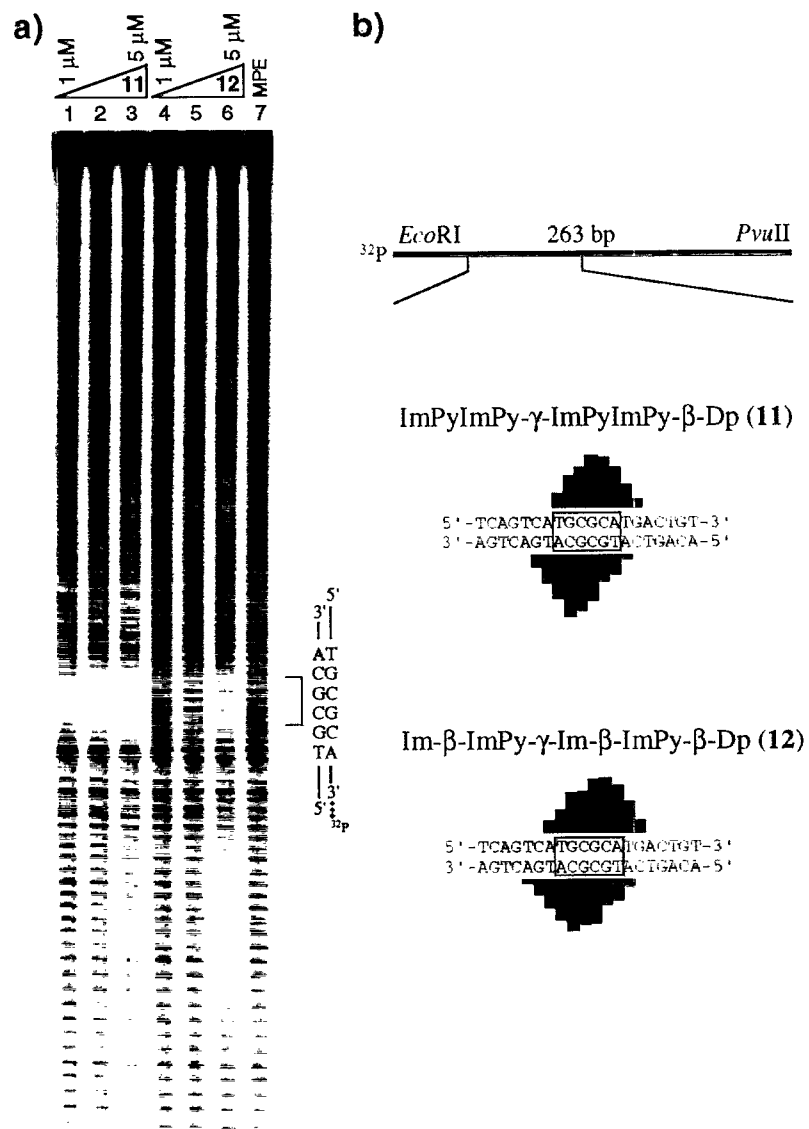


Figure S3