**Erceg, Table S2**

**Homotypic synthetic CRMs**

>Bap synthetic CRM (120 bp)

gatctTCCATAGTGTGCGAGTGGTCCATAGTGTGCGAGTGGTCCATAGTGTGCGAGTGGTCCATAGTGTGCGAGTGGTCCATAGTGTGCGAGTGGTCCATAGTGTGCGAGTGGTCCATgc

>Bin synthetic CRM (115 bp)

gatctTCCATAAAGTAAACAAATCCATAAAGTAAACAAATCCATAAAGTAAACAAATCCATAAAGTAAACAAATCCATAAAGTAAACAAATCCATAAAGTAAACAAATCCATAgc

>Doc2 synthetic CRM (98 bp)

cgcgccTGACTAGCAGGTAGTGACTAGCAGGTAGTGACTAGCAGGTAGTGACTAGCAGGTAGTGACTAGCAGGTAGTGACTAGCAGGTAGTGACTAgg

>dTCF synthetic CRM (110 bp)

cgcgccaccctaagatcaaaggaccctaagatcaaaggaccctaagatcaaaggaccctaagatcaaaggaccctaagatcaaaggaccctaagatcaaaggaccctagg

>Mef2 synthetic CRM (109 bp)

gatctTCCATACTATTTTTGGTCCATACTATTTTTGGTCCATACTATTTTTGGTCCATACTATTTTTGGTCCATACTATTTTTGGTCCATACTATTTTTGGTCCATAgc

>pMad 6x synthetic CRM (98 bp)

cgcgccACGATGGGCGCCAGACGATGGGCGCCAGACGATGGGCGCCAGACGATGGGCGCCAGACGATGGGCGCCAGACGATGGGCGCCAGACGATGgg

>pMad 4x synthetic CRM (69 bp)

gatctACGATGGGCGCCAGACGATGGGCGCCAGACGATGGGCGCCAGACGATGGGCGCCAGACGATGgc

>pMad 3x synthetic CRM (72 bp)

gatcttaGGCGCCAGtaCTGTCCGAGtaGGCGCCAGtaCTGTCCGAGtaGGCGCCAGtaCTGTCCGAGtagc

>pMad 2x synthetic CRM (41 bp)

gatctACGATGGGCGCCAGACGATGGGCGCCAGACGATGgc

>GATA synthetic CRM (92 bp)

cgcgccGACTCTATCGATAGACTCTATCGATAGACTCTATCGATAGACTCTATCGATAGACTCTATCGATAGACTCTATCGATAGACTCTgg

>Pnt synthetic CRM (98 bp)

cgcgccAGTACCGCATCCGGAGTACCGCATCCGGAGTACCGCATCCGGAGTACCGCATCCGGAGTACCGCATCCGGAGTACCGCATCCGGAGTACCgg

>Tin 6x synthetic CRM (103 bp)

gatctTCCATACCACTCGAGTCCATACCACTCGAGTCCATACCACTCGAGTCCATACCACTCGAGTCCATACCACTCGAGTCCATACCACTCGAGTCCATAgc

>Tin 3x synthetic CRM (72 bp)

gatcttaAGTACTAGtaCCACTCGAGtaAGTACTAGtaCCACTCGAGtaAGTACTAGtaCCACTCGAGtagc

>Twi synthetic CRM (109 bp)

gatctTCCATAGCATGTGTGTTCCATAGCATGTGTGTTCCATAGCATGTGTGTTCCATAGCATGTGTGTTCCATAGCATGTGTGTTCCATAGCATGTGTGTTCCATAgc

**Heterotypic synthetic CRMs**

>Doc-Tin A2 synthetic CRM (72 bp)

gatcttaGCAGGTAGtaCTCGAGTGGtaGCAGGTAGtaCTCGAGTGGtaGCAGGTAGtaCTCGAGTGGtagc

>Doc-Tin S2 synthetic CRM (72 bp)

gatcttaGCAGGTAGtaCCACTCGAGtaGCAGGTAGtaCCACTCGAGtaGCAGGTAGtaCCACTCGAGtagc

>Doc-Tin A4 synthetic CRM (86 bp)

gatcttataGCAGGTAGtataCTCGAGTGGtataGCAGGTAGtataCTCGAGTGGtataGCAGGTAGtataCTCGAGTGGtatagc

>Doc-Tin S4 synthetic CRM (86 bp)

gatctgctaGCAGGTAGgctaCCACTCGAGgctaGCAGGTAGgctaCCACTCGAGgctaGCAGGTAGgctaCCACTCGAGgctagc

>Doc-Tin A6 synthetic CRM (100 bp)

gatctagtataGCAGGTAGagtataCTCGAGTGGagtataGCAGGTAGagtataCTCGAGTGGagtataGCAGGTAGagtataCTCGAGTGGagtatagc

>Doc-Tin S6 synthetic CRM (100 bp)

gatctggtataGCAGGTAGggtataCCACTCGAGggtataGCAGGTAGggtataCCACTCGAGggtataGCAGGTAGggtataCCACTCGAGggtatagc

>Doc-Tin S8 synthetic CRM (114 bp)

gatctggtatactGCAGGTAGggtatactCCACTCGAGggtatactGCAGGTAGggtatactCCACTCGAGggtatactGCAGGTAGggtatactCCACTCGAGggtatactgc

>dTCF-Tin A2 synthetic CRM (78 bp)

gatcttaAGATCAAAGGtaCTCGAGTGGtaAGATCAAAGGtaCTCGAGTGGtaAGATCAAAGGtaCTCGAGTGGtagc

>dTCF-Tin S2 synthetic CRM (78 bp)

gatcttaAGATCAAAGGtaCCACTCGAGtaAGATCAAAGGtaCCACTCGAGtaAGATCAAAGGtaCCACTCGAGtagc

>dTCF-Tin A4 synthetic CRM (92 bp)

gatctgtacAGATCAAAGGgtacCTCGAGTGGgtacAGATCAAAGGgtacCTCGAGTGGgtacAGATCAAAGGgtacCTCGAGTGGgtacgc

>dTCF-Tin S4 synthetic CRM (92 bp)

gatctgtacAGATCAAAGGgtacCCACTCGAGgtacAGATCAAAGGgtacCCACTCGAGgtacAGATCAAAGGgtacCCACTCGAGgtacgc

>dTCF-Tin A6 synthetic CRM (106 bp)

gatctgtacgtAGATCAAAGGgtacgtCTCGAGTGGgtacgtAGATCAAAGGgtacgtCTCGAGTGGgtacgtAGATCAAAGGgtacgtCTCGAGTGGgtacgtgc

>dTCF-Tin S6 synthetic CRM (106 bp)

gatctgtacgtAGATCAAAGGgtacgtCCACTCGAGgtacgtAGATCAAAGGgtacgtCCACTCGAGgtacgtAGATCAAAGGgtacgtCCACTCGAGgtacgtgc

>dTCF-Tin A8 synthetic CRM (120 bp)

gatcttgtacaccAGATCAAAGGtgtacaccCTCGAGTGGtgtacaccAGATCAAAGGtgtacaccCTCGAGTGGtgtacaccAGATCAAAGGtgtacaccCTCGAGTGGtgtacaccgc

>dTCF-Tin S8 synthetic CRM (120 bp)

gatctgtatactcAGATCAAAGGgtatactcCCACTCGAGgtatactcAGATCAAAGGgtatactcCCACTCGAGgtatactcAGATCAAAGGgtatactcCCACTCGAGgtatactcgc

>dTCF-Tin A10 synthetic CRM (119 bp)

gtacgtAGATCAAAGGtacagtacgtCTCGAGTGGtacagtacgtAGATCAAAGGtacagtacgtCTCGAGTGGtacagtacgtAGATCAAAGGtacagtacgtCTCGAGTGGtacagt

>pMad-Tin A2 synthetic CRM (72 bp)

gatcttaGGCGCCAGtaCTCGAGTGGtaGGCGCCAGtaCTCGAGTGGtaGGCGCCAGtaCTCGAGTGGtagc

>pMad-Tin S2 synthetic CRM (72 bp)

gatcttaGGCGCCAGtaCCACTCGAGtaGGCGCCAGtaCCACTCGAGtaGGCGCCAGtaCCACTCGAGtagc

>pMad-Tin A4 synthetic CRM (86 bp)

gatcttataGGCGCCAGtataCTCGAGTGGtataGGCGCCAGtataCTCGAGTGGtataGGCGCCAGtataCTCGAGTGGtatagc

>pMad-Tin A4 synthetic CRM (control with different spacer) (86 bp)

gatctGGtaGGCGCCAGGGtaCTCGAGTGGGGtaGGCGCCAGGGtaCTCGAGTGGGGtaGGCGCCAGGGtaCTCGAGTGGGGtagc

>pMad-Tin S4 synthetic CRM (86 bp)

gatcttataGGCGCCAGtataCCACTCGAGtataGGCGCCAGtataCCACTCGAGtataGGCGCCAGtataCCACTCGAGtatagc

>pMad-Tin A6 synthetic CRM (100 bp)

gatctagtataGGCGCCAGagtataCTCGAGTGGagtataGGCGCCAGagtataCTCGAGTGGagtataGGCGCCAGagtataCTCGAGTGGagtatagc

>pMad-Tin A6 synthetic CRM (control with different spacer) (100 bp)

gatctGAGTACGGCGCCAGGAGTACCTCGAGTGGGAGTACGGCGCCAGGAGTACCTCGAGTGGGAGTACGGCGCCAGGAGTACCTCGAGTGGGAGTACgc

>pMad-Tin S6 synthetic CRM (100 bp)

gatctggtataGGCGCCAGggtataCCACTCGAGggtataGGCGCCAGggtataCCACTCGAGggtataGGCGCCAGggtataCCACTCGAGggtatagc

>pMad-Tin A8 synthetic CRM (114 bp)

gatctgagtatacGGCGCCAGgagtatacCTCGAGTGGgagtatacGGCGCCAGgagtatacCTCGAGTGGgagtatacGGCGCCAGgagtatacCTCGAGTGGgagtatacgc

>pMad-Tin S8 synthetic CRM (114 bp)

gatctgatggtacGGCGCCAGgatggtacCCACTCGAGgatggtacGGCGCCAGgatggtacCCACTCGAGgatggtacGGCGCCAGgatggtacCCACTCGAGgatggtacgc

>pMad-Tin-pMad S2 synthetic CRM (40 bp)

gatcttaGGCGCCAGtaCCACTCGAGtaGGCGCCAGtagc

>pMad-Tin-pMad A4 synthetic CRM (48 bp)

gatcttataGGCGCCAGtataCTCGAGTGGtataGGCGCCAGtatagc

>Tin-pMad-Tin S2 synthetic CRM (41 bp)

gatctTACCACTCGAGtaGGCGCCAGtaCCACTCGAGTAgc

>1x pMad-Tin A4 synthetic CRM (36 bp)

gatcttataGGCGCCAGtataCTCGAGTGGtatagc

>1x Tin-pMad A4 synthetic CRM (36 bp)

gatcttataCTCGAGTGGtataGGCGCCAGtatagc

>mutpMad-mutTin S2 synthetic CRM (72 bp)

gatcttaAGTACTAGtaCTGTCCGAGtaAGTACTAGtaCTGTCCGAGtaAGTACTAGtaCTGTCCGAGtagc

>GATA-Tin A2 synthetic CRM (72 bp)

gatctacATCGATAGacCTCGAGTGGacATCGATAGacCTCGAGTGGacATCGATAGacCTCGAGTGGacgc

>GATA-Tin S2 synthetic CRM (72 bp)

gatctgtATCGATAGgtCCACTCGAGgtATCGATAGgtCCACTCGAGgtATCGATAGgtCCACTCGAGgtgc

>GATA-Tin A4 synthetic CRM (86 bp)

gatctgtacATCGATAGgtacCTCGAGTGGgtacATCGATAGgtacCTCGAGTGGgtacATCGATAGgtacCTCGAGTGGgtacgc

>GATA-Tin S4 synthetic CRM (86 bp)

gatctgtacATCGATAGgtacCCACTCGAGgtacATCGATAGgtacCCACTCGAGgtacATCGATAGgtacCCACTCGAGgtacgc

>GATA-Tin A6 synthetic CRM (100 bp)

gatcttgtaccATCGATAGtgtaccCTCGAGTGGtgtaccATCGATAGtgtaccCTCGAGTGGtgtaccATCGATAGtgtaccCTCGAGTGGtgtaccgc

>GATA-Tin S6 synthetic CRM (100 bp)

gatctgagtacATCGATAGgagtacCCACTCGAGgagtacATCGATAGgagtacCCACTCGAGgagtacATCGATAGgagtacCCACTCGAGgagtacgc

>GATA-Tin A8 synthetic CRM (114 bp)

gatcttgtacaccATCGATAGtgtacaccCTCGAGTGGtgtacaccATCGATAGtgtacaccCTCGAGTGGtgtacaccATCGATAGtgtacaccCTCGAGTGGtgtacaccgc

>GATA-Tin S8 synthetic CRM (114 bp)

gatctgatggtacATCGATAGgatggtacCCACTCGAGgatggtacATCGATAGgatggtacCCACTCGAGgatggtacATCGATAGgatggtacCCACTCGAGgatggtacgc

>GATA-Tin A10 synthetic CRM (119 bp)

gtacagtacATCGATAGtgtacagtacCTCGAGTGGtgtacagtacATCGATAGtgtacagtacCTCGAGTGGtgtacagtacATCGATAGtgtacagtacCTCGAGTGGtgtacagta

>GATA-Tin S10 synthetic CRM (119 bp)

taccaacgtATCGATAGgtaccaacgtCCACTCGAGgtaccaacgtATCGATAGgtaccaacgtCCACTCGAGgtaccaacgtATCGATAGgtaccaacgtCCACTCGAGgtaccaacg

>GATA-Tin-long A4 synthetic CRM (96 bp)

gatctATCGTGCGATAAGGtaccCTCGAGTGGtaccATCGTGCGATAAGGtaccCTCGAGTGGtaccATCGTGCGATAAGGtaccCTCGAGTGGgc

>GATA-Tin-long S4 synthetic CRM (96 bp)

gatctATCGTCCGATAAGGgtacCCACTCGAGgtacATCGTCCGATAAGGgtacCCACTCGAGgtacATCGTCCGATAAGGgtacCCACTCGAGgc

>GATA-Tin-long A6 synthetic CRM (106 bp)

gatctATCGTGCGATAAGGtataccCTCGAGTGGtataccATCGTGCGATAAGGtataccCTCGAGTGGtataccATCGTGCGATAAGGtataccCTCGAGTGGgc

>GATA-Tin-long S6 synthetic CRM (106 bp)

gatctATCGTCCGATAAGGtataccCCACTCGAGtataccATCGTCCGATAAGGtataccCCACTCGAGtataccATCGTCCGATAAGGtataccCCACTCGAGgc

>GATA-Tin-long A8 synthetic CRM (116 bp)

gatctATCGTGCGATAAGGtgtacaccCTCGAGTGGtgtacaccATCGTGCGATAAGGtgtacaccCTCGAGTGGtgtacaccATCGTGCGATAAGGtgtacaccCTCGAGTGGgc

>GATA-Tin-long S8 synthetic CRM (116 bp)

gatctATCGTGCGATAAGGagtataccCCACTCGAGagtataccATCGTGCGATAAGGagtataccCCACTCGAGagtataccATCGTGCGATAAGGagtataccCCACTCGAGgc

>GATA-Tin-long S10 synthetic CRM (119 bp)

ATCGTCCGATAAGGgacgtataccCCACTCGAGgacgtataccATCGTCCGATAAGGgacgtataccCCACTCGAGgacgtataccATCGTCCGATAAGGgacgtataccCCACTCGAG