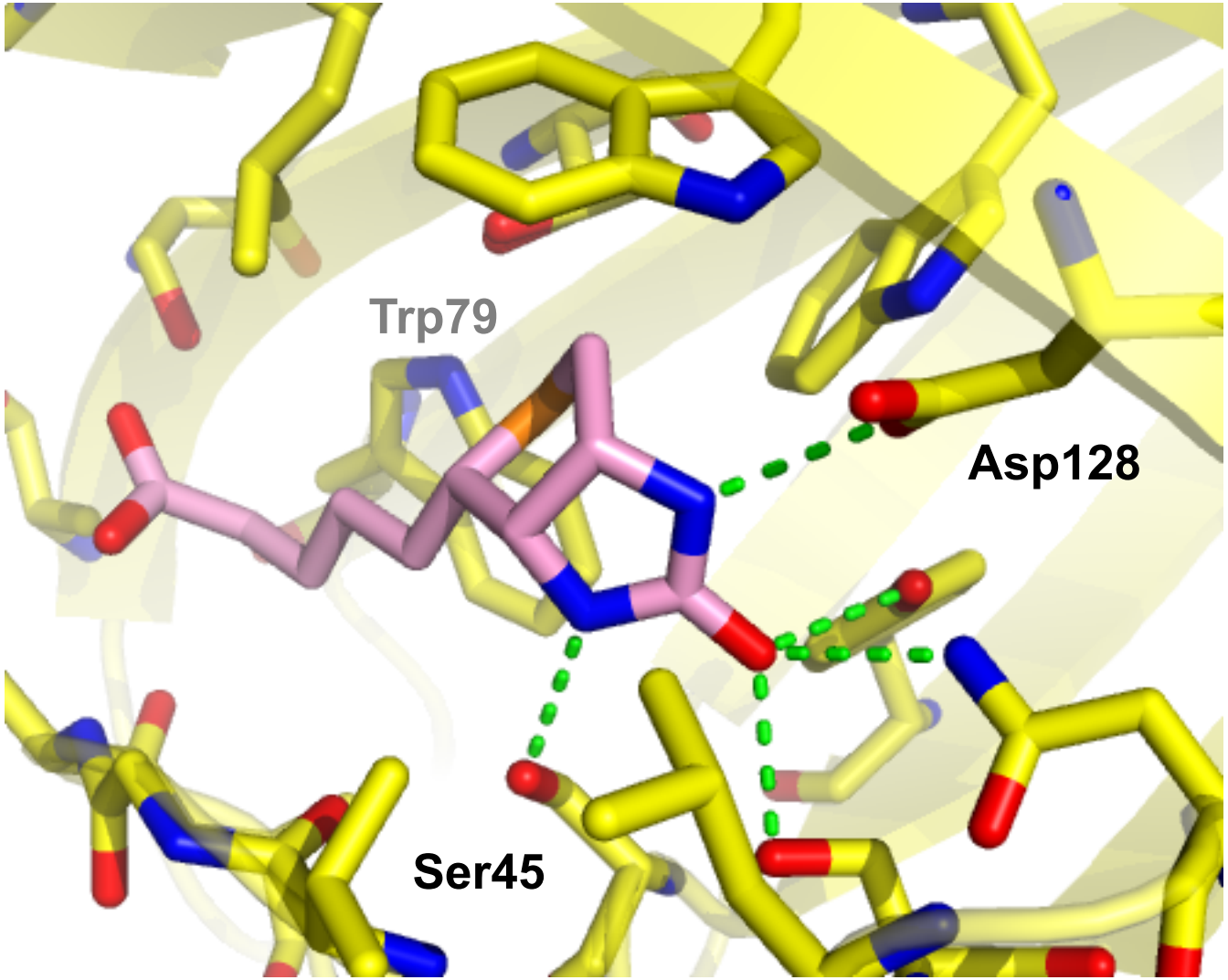
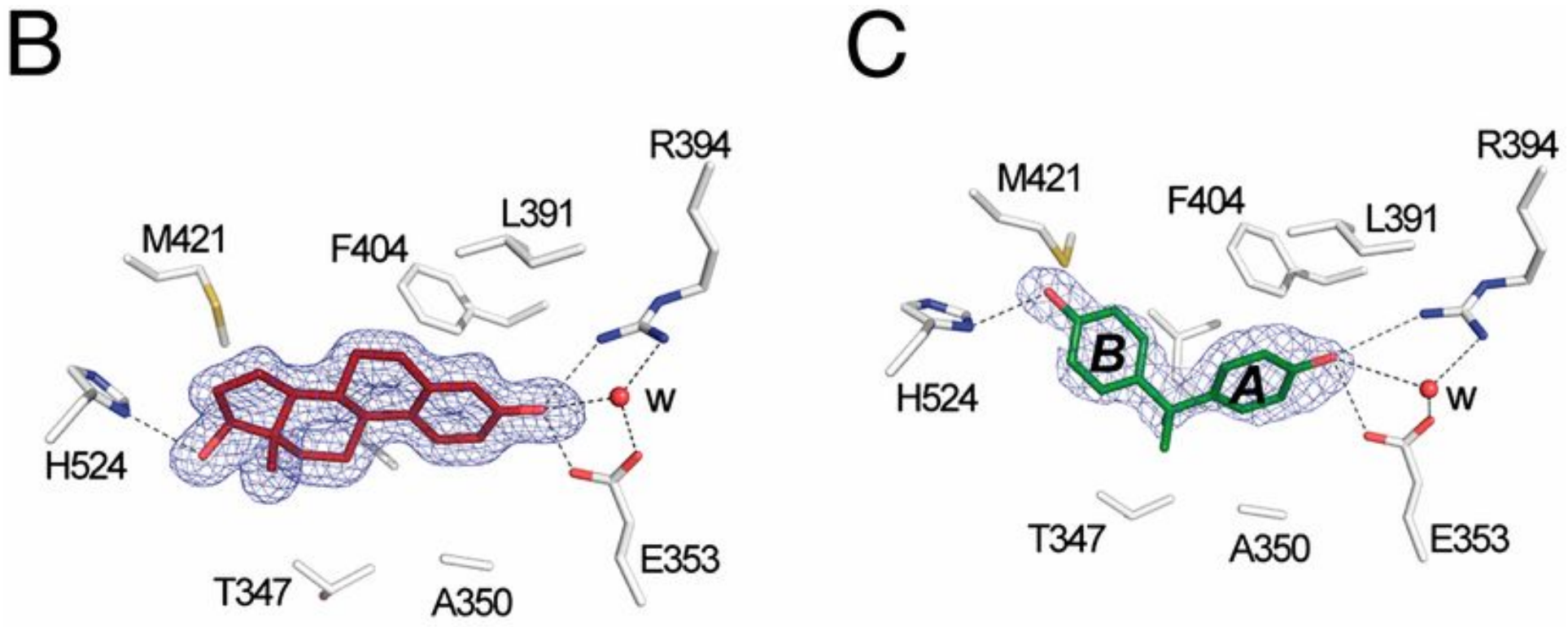
Biotin•Streptavidin



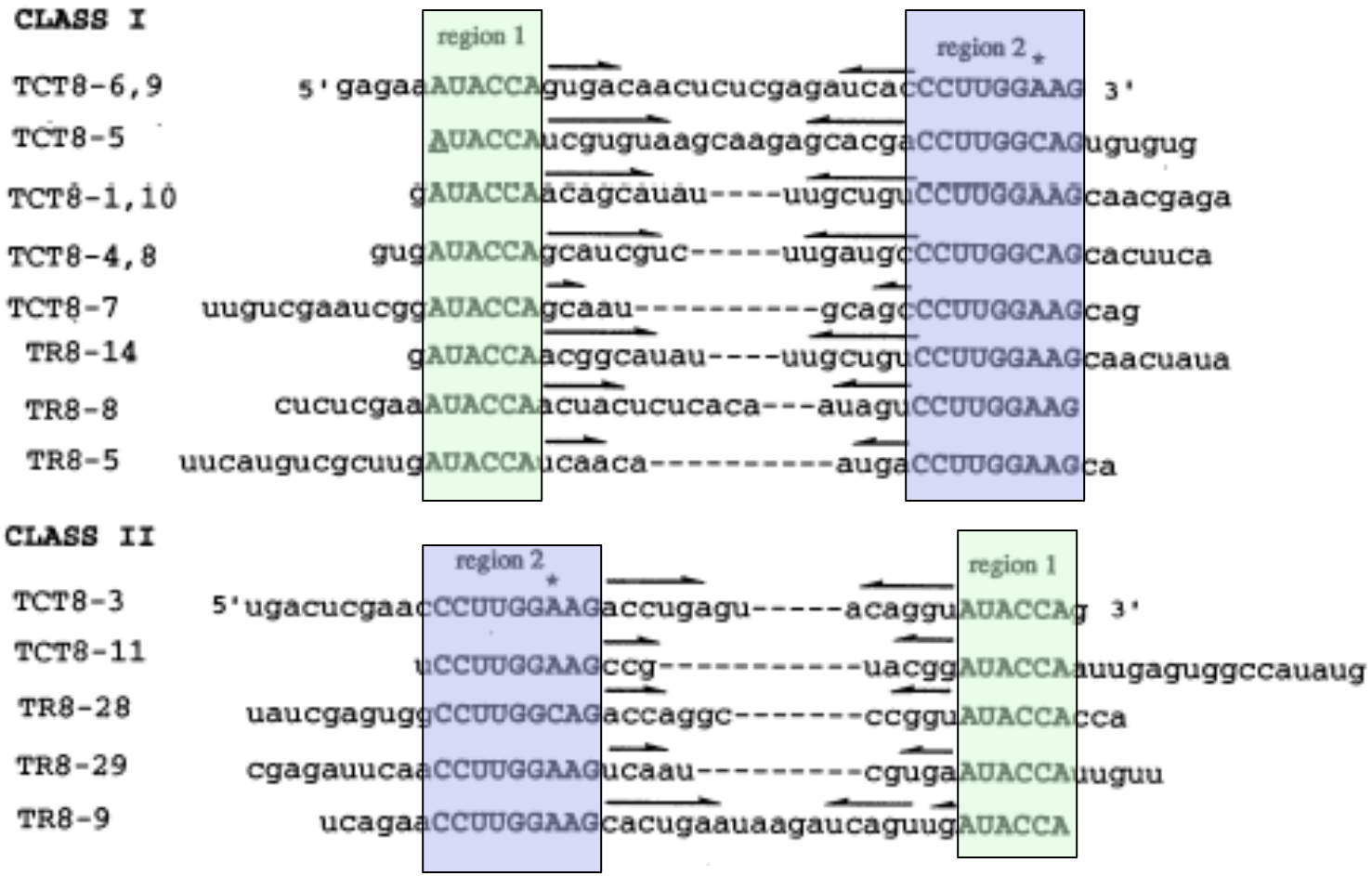
Estrogen Receptor



Estradiol **Bisphenol A**

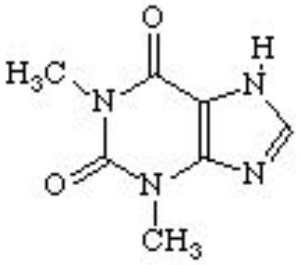
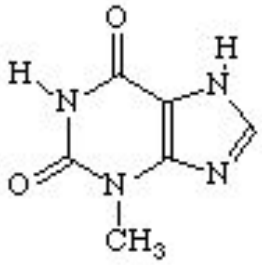
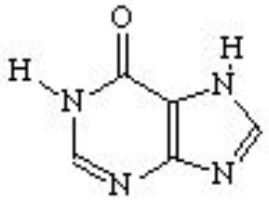
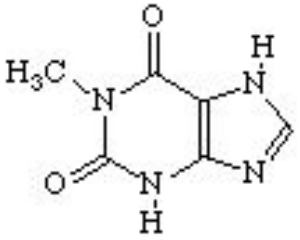
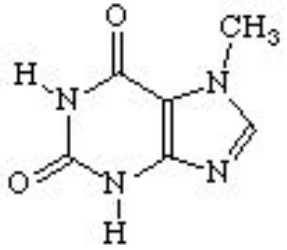
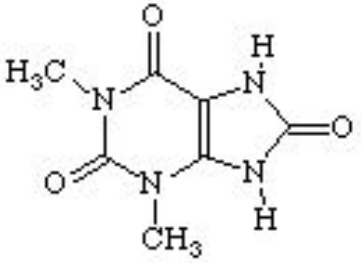
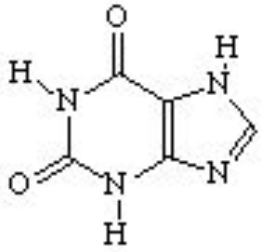
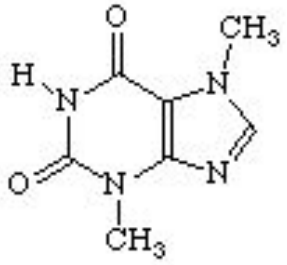
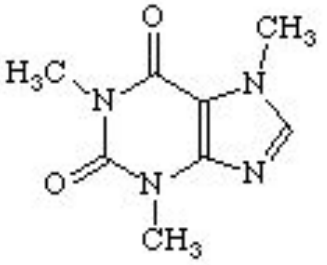
Conserved RNA Sequence:

AUACCA + CCUUGG$^{A}_{C}$AG



Properties of a Theophylline-Binding RNA Aptamer
(Jenison et al. (1994) *Science* **263**, 1425)

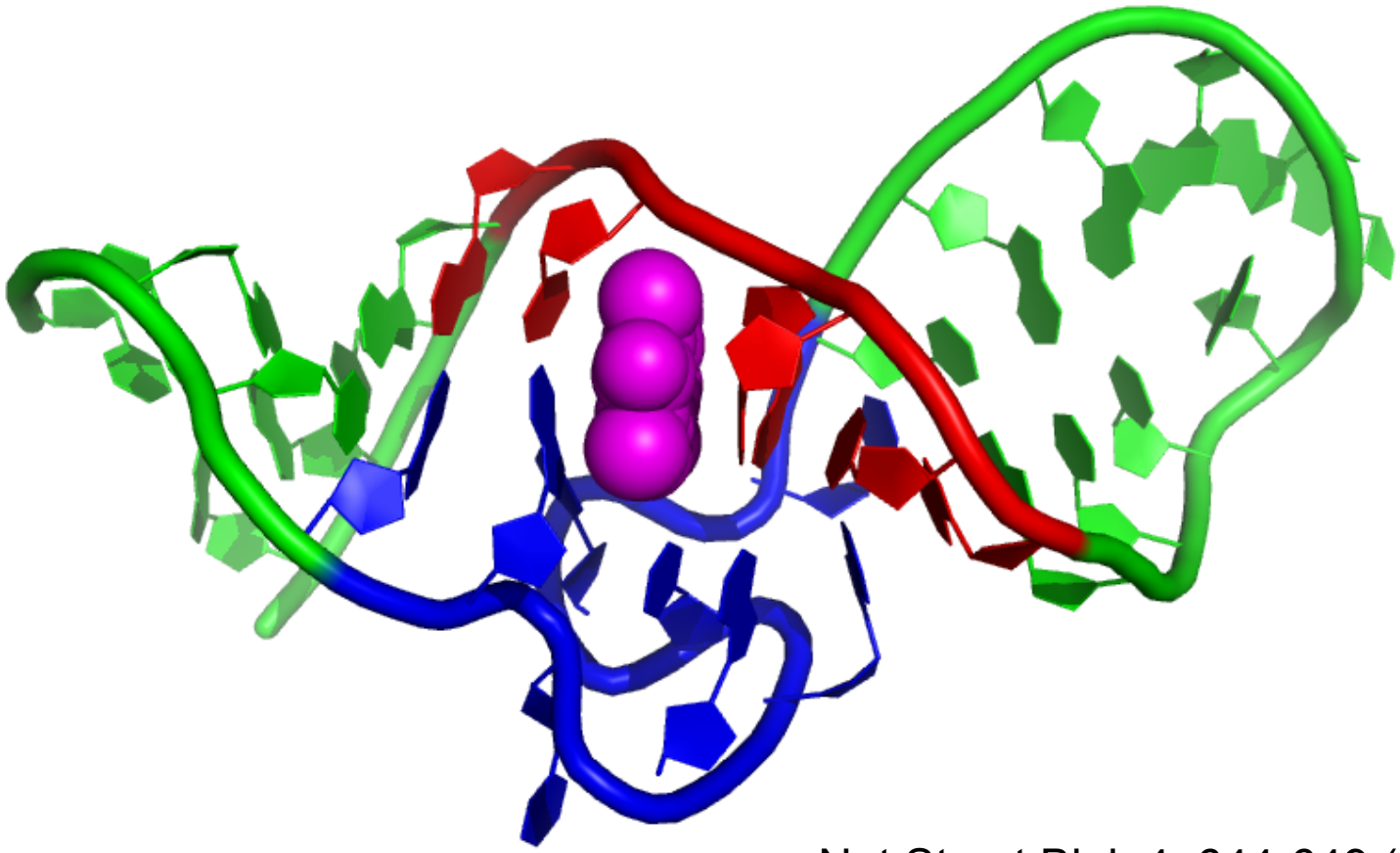
Theophylline

	K_d (μM)		K_d (μM)		K_d (μM)
	0.32		2.0		49.0
	9.0		>500		>1000
	8.5		>500		3500

Caffeine

Conserved RNA Sequence:

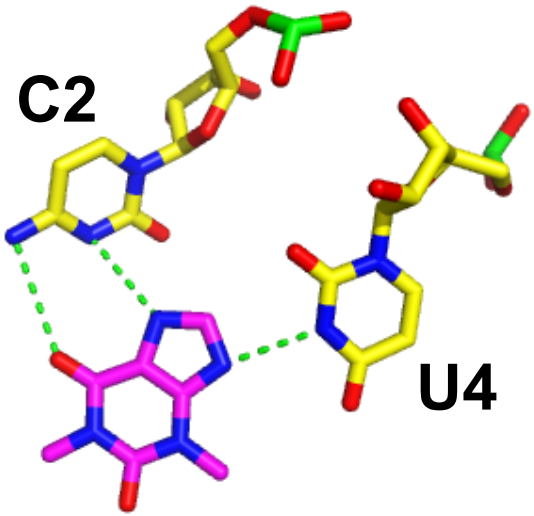
AUACCA + CCUUGG$^{A}_{C}$AG

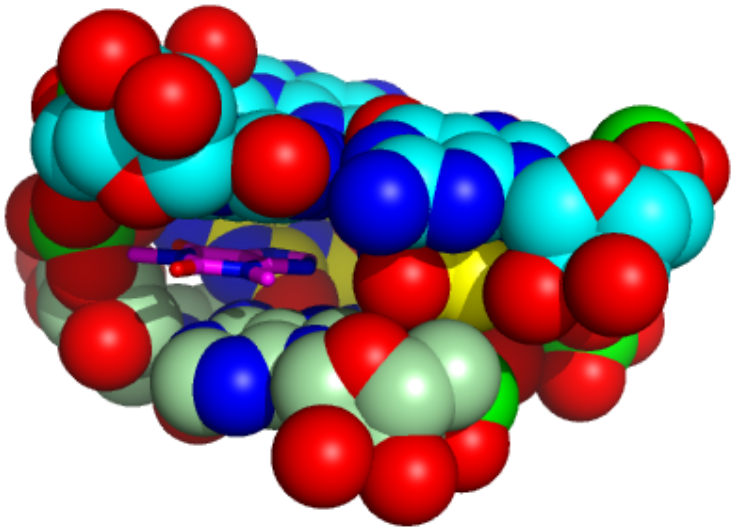


Nat.Struct.Biol. 4: 644-649 (1997)

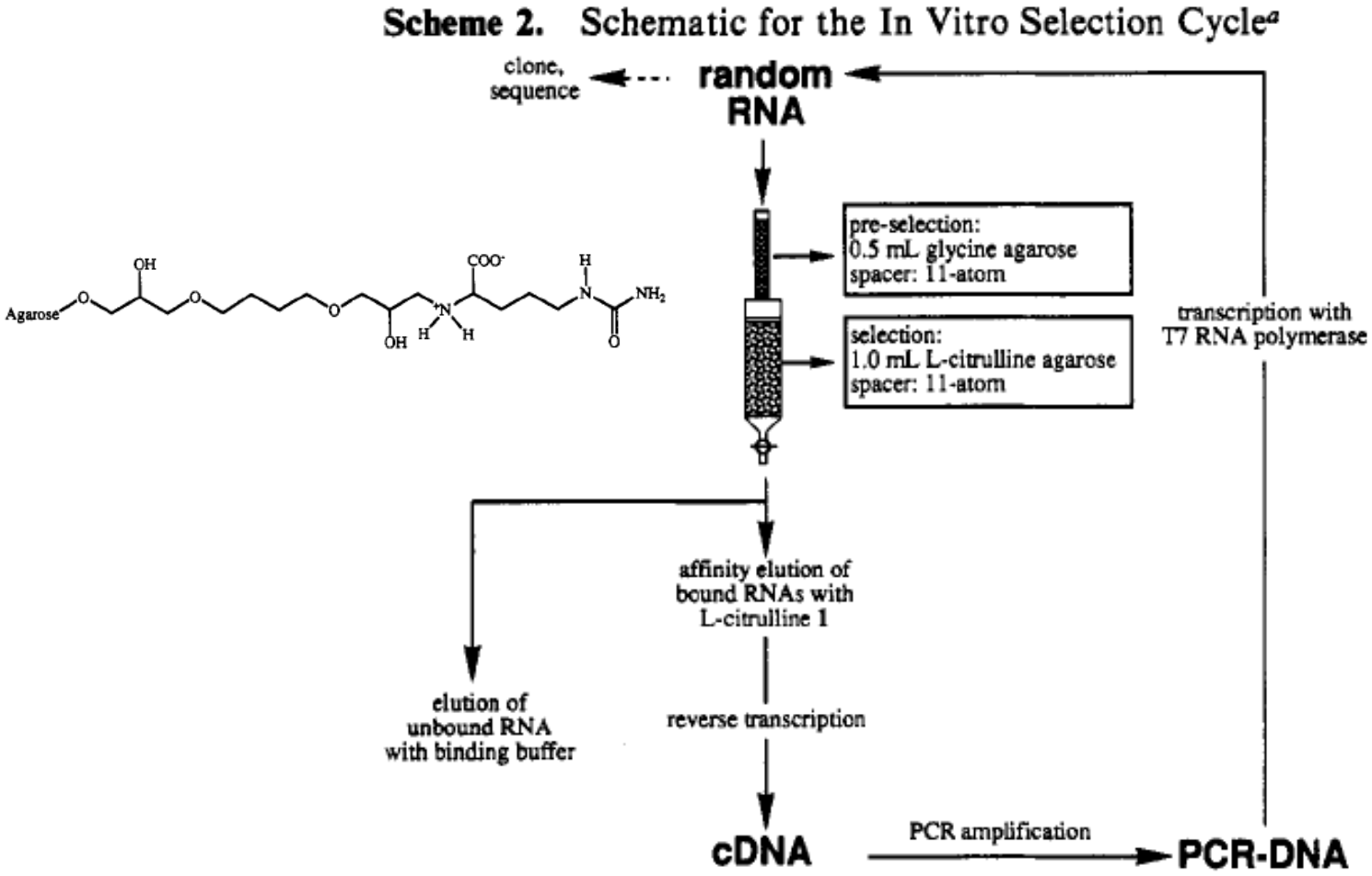
Conserved RNA Sequence:

AUACCA + CCUUGG$^{A}_{C}$AG



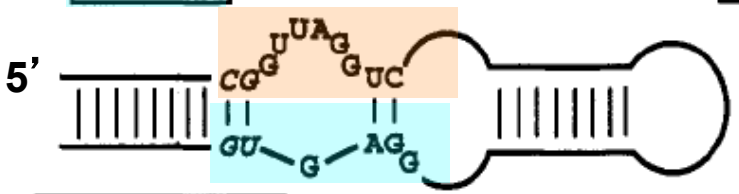


SELEX and a Citrulline Aptamer



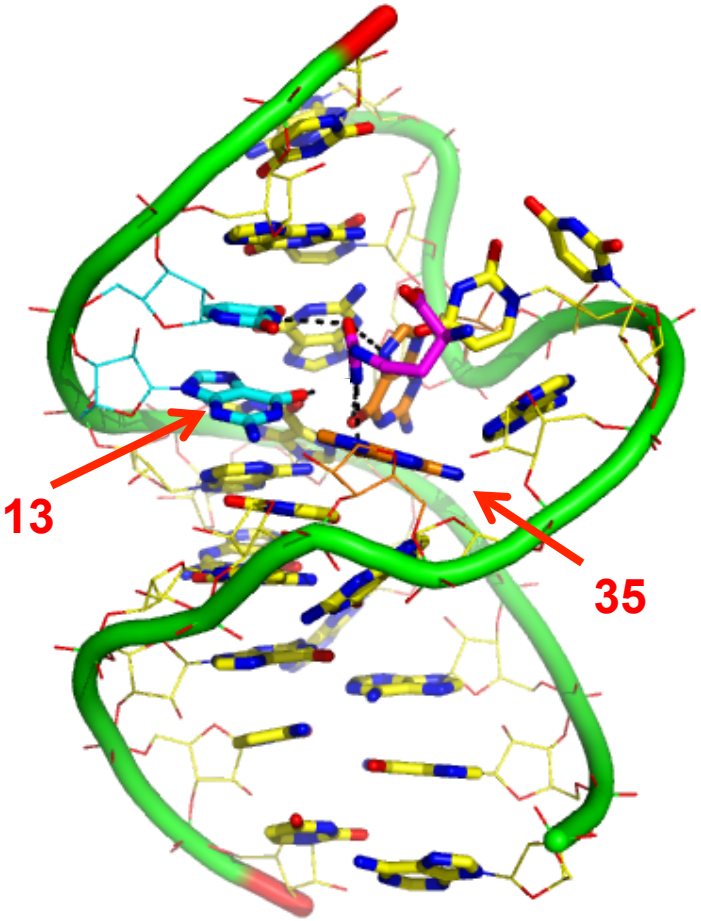
From a 10^{15} RNA Library

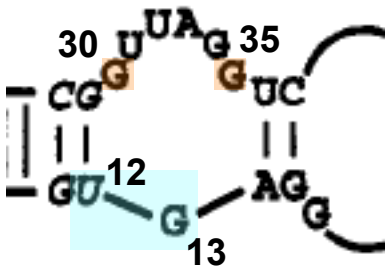
Clone					
02	N_{17}-GAGUCA	GGAGUG	UUCCAUAAGGU-N_{03}-AUCUUAUGGGU	CGGUUAGGUC	AGCUC-N_{04}
03	N_{02}-AUUGUCGAA	GGAGUG	CUCUAG------N_{27}------UUAGAG	CGGUUAGGUC	GCGACGAU
04	N_{05}-CCGUACG	GGAGUG	GAGCGUCCGUG-N_{19}-UGUGGGCGCCU	CGGUUAGGUC	AAUACaa
05	cuacCG	GGAGUG	GGAUG-------N_{03}-------UAUCU	CGGUUAGGUC	AGCAG-N_{40}
07	N_{20}-GAGUGGACGCA	GGAGUG	CUU---------N_{03}---------AAG	CGGUUAGGUC	ACGUCACACUC-N_{07}
08	ccuucacugcAA	GGAGUG	AUGUAAG-----N_{33}-----CUUAUGU	CGGUUAGGUC	GGCGGUGGAaa
10	N_{12}-GAGACGGGAA	GGAGUG	CAGU--------N_{09}--------GUUG	CGGUUAGGUC	GCUCGUCUC-N_{10}
11	N_{04}-GGGUUUACCGAGAA	GGAGUG	CUGGU-------N_{03}-------ACUAG	CGGUUAGGUC	ACUCAUAAACCU-N_{15}
12	ugcAUCG	GGAGUG	GCC---------N_{04}---------GGU	CGGUUAGGUC	AAGUGCA-N_{37}
13	acugcGUU	GGAGUG	GCAA--------N_{10}--------UUGU	CGGUUAGGUC	GCGCAGU-N_{27}
22	N_{07}-UUUUUUAACG	GGAGUG	AUGU--------N_{04}-------ACAUU	CGGUUAGGUC	AAUUAAAGGG-N_{16}



15	N_{08}-UAG	CGGUUAGGUC	GCUG-----N_{05}-----CGGAA	GGAGUG	CUA-N_{29}
16	N_{07}-AC	CGGUUAGGUC	GCUGGAC--N_{14}--GUCCGGAA	GGAGUG	GU-N_{18}
17	acugc	CGGUUAGGUC	GCCC-----N_{23}-----GGGAA	GGAGUG	GCAGU-N_{21}
19	N_{07}-UGGACUUU	CGGUUAGGUC	GGAACC---N_{18}---GGUUCAG	GGAGUG	GGAGUUCA-N_{04}
14	ucacug	CGGUUAGGUC	GGACU----N_{04}----AGUCAA	GGAGUG	CAGUGA-N_{35}
20	N_{32}-CCGU	CGGUUAGGUC	GGUCU----N_{04}----AGAAUA	GGAGUG	GCgg
21	N_{37}-CCGU	CGGUUAGGUC	GGCUGU---N_{05}-------AUA	GGAGUG	GCgg
23	N_{03}-GCC	CGGUUAGGUC	GGGCG----N_{05}-----CGCAA	GGAGUG	GGU-N_{34}

Citrulline binding

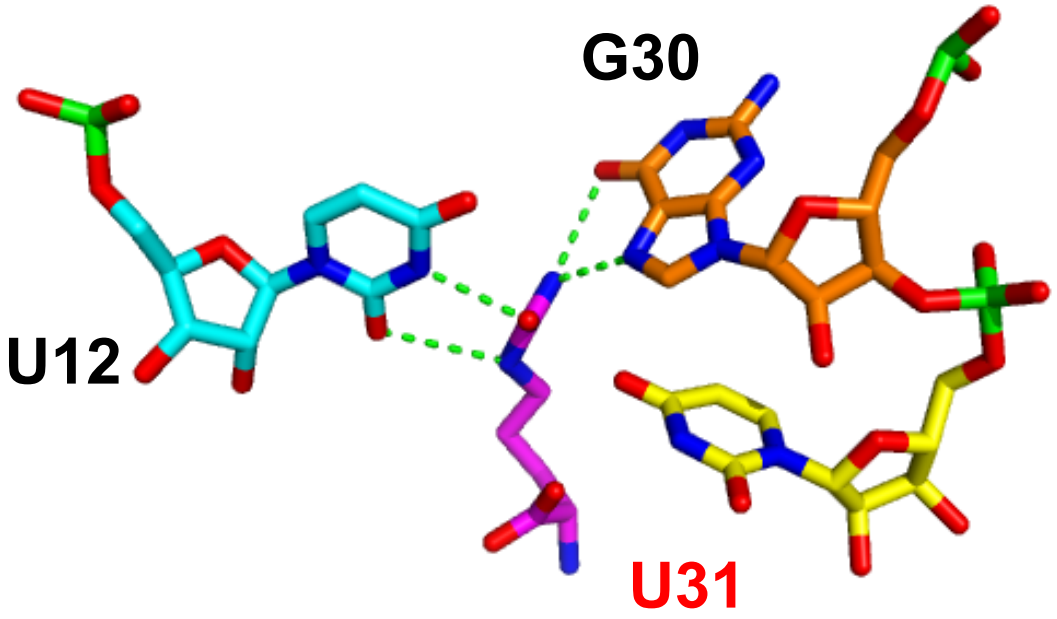


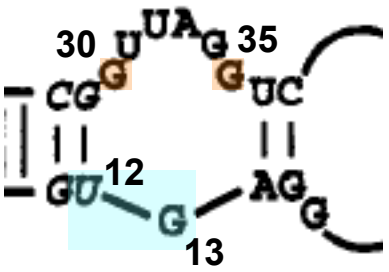


Structural Basis of Ligand Discrimination by Two Related RNA Aptamers Resolved by NMR Spectroscopy

Yinshan Yang, Michel Kochoyan,* Petra Burgstaller, Eric Westhof, Michael Famulok

Citrulline binding





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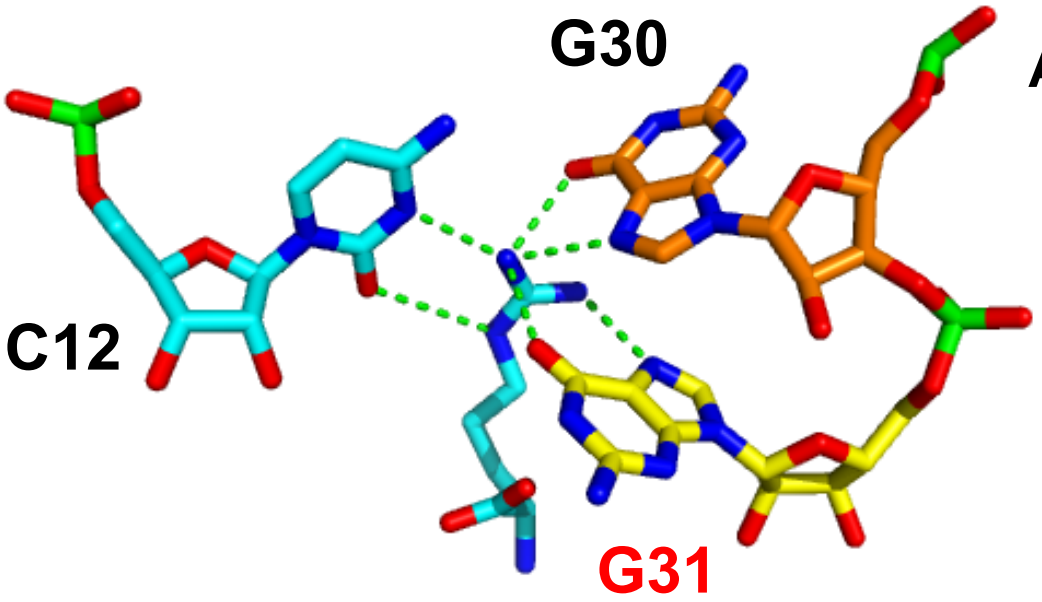
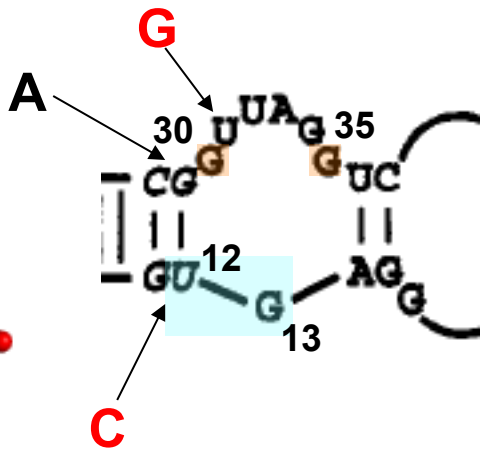
Yinshan Yang, Michel Kochoyan,* Petra Burgstaller, Eric Westhof, Michael Famulok

Arginine binding





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