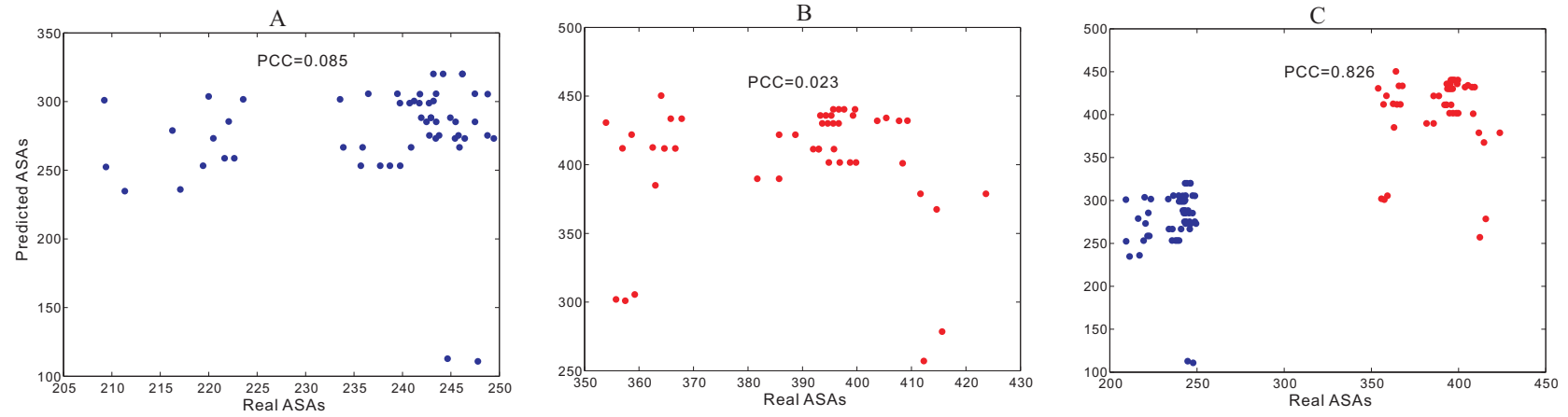
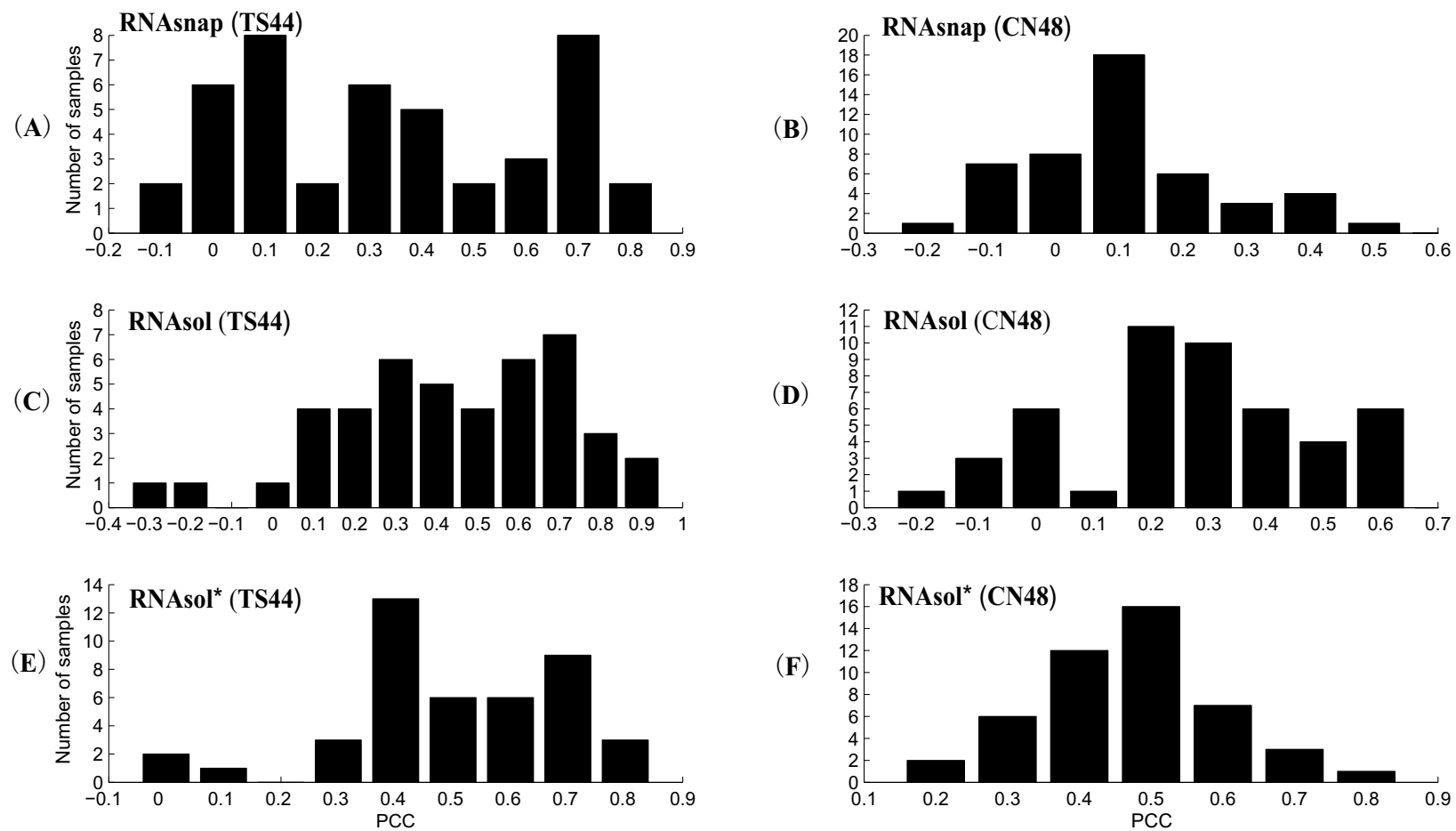


## Supplementary Materials



**Fig S1.** An example to illustrate the problem with single PCC.



**Figure S2.** The PCC distribution for RNAsnap and RNAsol on the test sets TS44 and CN48. RNAsol and RNAsol\* indicates that the models were trained with the TR89 and TR120 sets, respectively.

**Table S1.** The range of the parameters in the grid search.

Parameter	Range
Window size $w$	[0, 50] with increase step of 5
Batch size $b$	50, 100, 200
Dropout rate $d$	0.1, 0.3, 0.5, 0.6
Learning rate $l$	0.001, 0.002, 0.003, 0.004, 0.005
Number of cells $n$	Layer 1 512, 256, 128
	Layer 2 256, 128, 64
	Layer 3 128, 64
	Layer 4 64

**Table S2.** Head-to-head comparison of the prediction by RNAsol and BLASTN-based transferal for the five targets in TS45 with detected templates in TR120.

PDB ID (e-value, alignment coverage )	PCC		SCC		MAE( $\text{\AA}^2$ )	
	RNAsol	BLASTN	RNAsol	BLASTN	RNAsol	BLASTN
5tf6_D (9.00e-14, 65%)	0.75	0.77	0.60	0.65	26.8	22.1
1g1x_I (4.00e-11, 38%)	0.38	0.13	0.15	0.21	39.0	49.6
4wf9_X (0, 36%)	0.75	0.61	0.79	0.64	20.0	24.1
4v4g_AA (0, 97%)	0.67	0.65	0.63	0.66	28.9	29.7
4v4p_BC (4.00e-14, 45%)	0.74	0.56	0.62	0.40	27.5	29.3
Average	0.66	0.55	0.56	0.51	28.4	30.9

**Table S3.** The comparison of RNAsol with random prediction on different target types of TS45.

Target type	PCC		MAE ( $\text{\AA}^2$ )	
	RNAsol	Random	RNAsol	Random
Easy	0.25	0	73.6	96.4
Hard	0.5	0	32.4	37.6