Electronic Supplementary Material (ESI) for Molecular BioSystems.

Supporting Data

Cluster size		***trans* binding affinity**				
		2kT	**4kT**	**6kT**	**8kT**	**10Kt**
***cis* binding affinity**	**2kT**	1.0032	1.0520	1.3424	2.5024	28.2756
	4kT	1.0352	6.8692	33.7676	17.3824	17.1808
	6kT	1.0284	17.3716	19.4956	13.5084	11.0892
	8kT	1.1536	8.3052	13.3168	10.3576	8.0112
	10kT	1.9492	5.6580	7.2128	9.1528	8.1096

Table S1: the average cluster size for the second kinetic scenario under different values of *trans* and *cis* binding affinities

Cluster size		*trans* binding affinity				
		2kT	**4kT**	**6kT**	**8kT**	**10Kt**
***cis* binding affinity**	**2kT**	1.0036	1.0168	1.0476	1.2592	2.1220
	4kT	1.0320	1.3256	40.4172	24.9948	20.6212
	6kT	1.2336	19.6588	17.9076	15.3796	12.0904
	8kT	1.0016	6.2700	12.4396	10.0324	9.4000
	10kT	1.6136	3.7396	6.50440	8.3948	7.4388

Table S2: the average cluster size for the third kinetic scenario under different values of *trans* and *cis* binding affinities

d_0	E_0=1kT		E_0=10kT	
	# of *trans*-dimers	**cluster size**	**# of *trans*-dimers**	**cluster size**
2.0nm	76.2	42.90	78.76	37.68
4.0nm	74.3	29.43	80.35	29.19
6.0nm	76.39	35.93	81.1	30.01
8.0nm	76.74	40.57	81.3	38.65
10.0nm	75.39	32.73	81.9	38.14

Table S3: the average numbers of *trans*-dimers and the average size of clusters under different values of E_0 and d_0

Affinity of C_{CAM}	# of *SR*-dimers	CAMs cluster size	
2kT	6.9134	62.435	67.088
4kT	6.5336	25.822	24.346
6kT	6.277	13.198	12.538
8kT	5.8772	11.096	9.042
10kT	6.2788	9.918	9.5996
No CAMs	4.30	**With SR**	**No SR**

Table S4: the average numbers of *SR* dimers and the average size of CAM clusters when there is no direct interaction between CAMs and SRs

	Affinity of $C_{CAM\text{-}SR}$						
Affinity of C_{CAM}		**2kT**	**4kT**	**6kT**	**8kT**	**10kT**	**0kT**
	0kT	5.918	5.989	4.846	1.420	0.024	6.1288
	2kT	6.932	6.914	4.747	1.601	0.081	6.9134
	4kT	6.513	6.635	3.367	1.003	0.061	6.5336
	6kT	6.543	6.054	2.888	1.216	0.127	6.277
	8kT	6.436	5.539	3.854	2.000	0.043	5.8772
	10kT	6.145	5.727	4.030	1.507	0.063	6.2788

Table S5: the average numbers of SR dimers when the interactions between CAMs and SRs share the same interface (SI) and are not temporally regulated

	Affinity of $C_{CAM\text{-}SR}$						
Affinity of C_{CAM}		**2kT**	**4kT**	**6kT**	**8kT**	**10kT**	**0kT**
	0kT	5.972	6.109	6.007	7.712	7.096	6.1288
	2kT	6.872	6.552	6.173	5.107	3.218	6.9134
	4kT	6.467	6.479	6.135	4.296	2.142	6.5336
	6kT	6.113	6.601	5.605	3.969	1.928	6.277
	8kT	5.904	5.537	5.249	4.29	1.847	5.8772
	10kT	5.729	5.703	5.61	4.43	1.621	6.2788

Table S6: the average numbers of SR dimers when the interactions between CAMs and SRs form through distinctive interfaces (DI) and are not temporally regulated

		Affinity of $C_{CAM\text{-}SR}$					
		2kT	**4kT**	**6kT**	**8kT**	**10kT**	**0kT**
Affinity of C_{CAM}	**0kT**	2.003	2.014	2.328	3.589	5.534	
	2kT	68.203	60.002	71.071	55.408	40.953	62.435
	4kT	27.922	30.467	23.478	22.730	29.098	25.822
	6kT	14.087	12.782	13.745	12.506	16.158	13.198
	8kT	10.199	10.769	10.206	10.503	10.721	11.096
	10kT	9.610	10.924	10.24	12.521	11.68	9.918

Table S7: the average sizes of CAMs clusters when the interactions between CAMs and SRs share the same interface (SI) and are not temporally regulated

		Affinity of $C_{CAM\text{-}SR}$					
		2kT	**4kT**	**6kT**	**8kT**	**10kT**	**0kT**
Affinity of C_{CAM}	**0kT**	2.059	2.398	3.335	8.405	9.275	
	2kT	65.397	61.645	67.67	61.41	46.967	62.435
	4kT	24.551	26.915	27.081	22.606	26.445	25.822
	6kT	15.641	13.883	14.931	14.534	15.761	13.198
	8kT	9.029	9.690	11.984	12.266	10.644	11.096
	10kT	9.211	10.026	11.362	11.824	12.298	9.918

Table S8: the average sizes of CAMs clusters when the interactions between CAMs and SRs form through distinctive interfaces (DI) and are not temporally regulated

		Affinity of $C_{CAM\text{-}SR}$					
		2kT	**4kT**	**6kT**	**8kT**	**10kT**	**0kT**
Affinity of C_{CAM}	**0kT**	5.981	6.185	5.905	5.892	6.193	6.1288
	2kT	6.883	7.110	6.884	6.792	6.656	6.9134
	4kT	6.690	6.659	6.608	6.543	6.781	6.5336
	6kT	6.550	6.348	6.079	6.237	6.513	6.277
	8kT	6.115	6.137	6.477	5.987	6.22	5.8772
	10kT	6.265	6.420	6.462	6.248	6.079	6.2788

Table S9: the average numbers of SR dimers when the interactions between CAMs and SRs share the same interface (SI) and are temporally regulated

		Affinity of $C_{CAM\text{-}SR}$					
		2kT	**4kT**	**6kT**	**8kT**	**10kT**	**0kT**
Affinity of C_{CAM}	**0kT**	6.094	6.212	6.773	9.174	17.292	6.1288
	2kT	6.684	6.895	6.941	7.333	8.609	6.9134
	4kT	6.548	6.882	6.526	6.349	6.9	6.5336
	6kT	6.471	6.476	6.416	6.603	6.397	6.277
	8kT	6.083	6.059	5.849	6.293	6.282	5.8772
	10kT	5.852	6.582	6.091	6.418	6.904	6.2788

Table S10: the average numbers of SR dimers when the interactions between CAMs and SRs form through distinctive interfaces (DI) and are temporally regulated

		Affinity of $C_{CAM\text{-}SR}$					
		2kT	**4kT**	**6kT**	**8kT**	**10kT**	**0kT**
Affinity of C_{CAM}	**0kT**	2.000	2.005	2.038	2.123	2.431	
	2kT	67.067	66.969	67.688	77.815	65.102	62.435
	4kT	21.252	28.351	23.296	23.933	24.298	25.822
	6kT	13.748	13.844	12.490	10.901	14.908	13.198
	8kT	9.811	11.001	9.602	10.599	10.015	11.096
	10kT	9.400	9.400	11.20	9.600	8.600	9.918

Table S11: the average sizes of CAMs clusters when the interactions between CAMs and SRs share the same interface (SI) and are temporally regulated

		Affinity of $C_{CAM\text{-}SR}$					
		2kT	**4kT**	**6kT**	**8kT**	**10kT**	**0kT**
Affinity of C_{CAM}	**0kT**	2.06	2.371	6.336	5.223	6.000	
	2kT	75.606	92.74	74.005	84.206	72.868	62.435
	4kT	24.916	19.625	25.648	21.332	25.111	25.822
	6kT	13.593	15.629	13.289	14.204	12.922	13.198
	8kT	10.595	11.049	9.000	10.799	9.995	11.096
	10kT	9.200	10.199	9.800	9.429	10.600	9.918

Table S12: the average sizes of CAMs clusters when the interactions between CAMs and SRs form through distinctive interfaces (DI) and are temporally regulated