polymer in 0.5 mL of protein stock solution was used as the sample solution for the titration. A solution of microgel in buffer solution (20 mg in 0.5 mL) served as the blank solution.

A reference cell was filled with 2.5 mL of phosphate buffer in a quartz cuvette. The sample cuvette was filled with 2.5 mL of protein stock solution. Equal aliquots of sample solution and blank solution were titrated into the sample cuvette and the blank cell, respectively, to maintain the same concentration of polymer in each cuvette. UV–vis spectra were recorded after the solution had equilibrated during 15 min. of stirring. Titrations were carried out at room temperature (20 °C).

The UV–vis absorbance vs wavelength data was pasted into a spreadsheet and the second derivative was calculated according to the Savitsky–Golay[7-9] method with the help of a macro [9]. Since the second derivative of the absorbance is insensitive to light scattering, this gave a clearer representation of the changes in the UV–vis spectrum of the protein that occurred during binding of the protein to the RAFT copolymer.

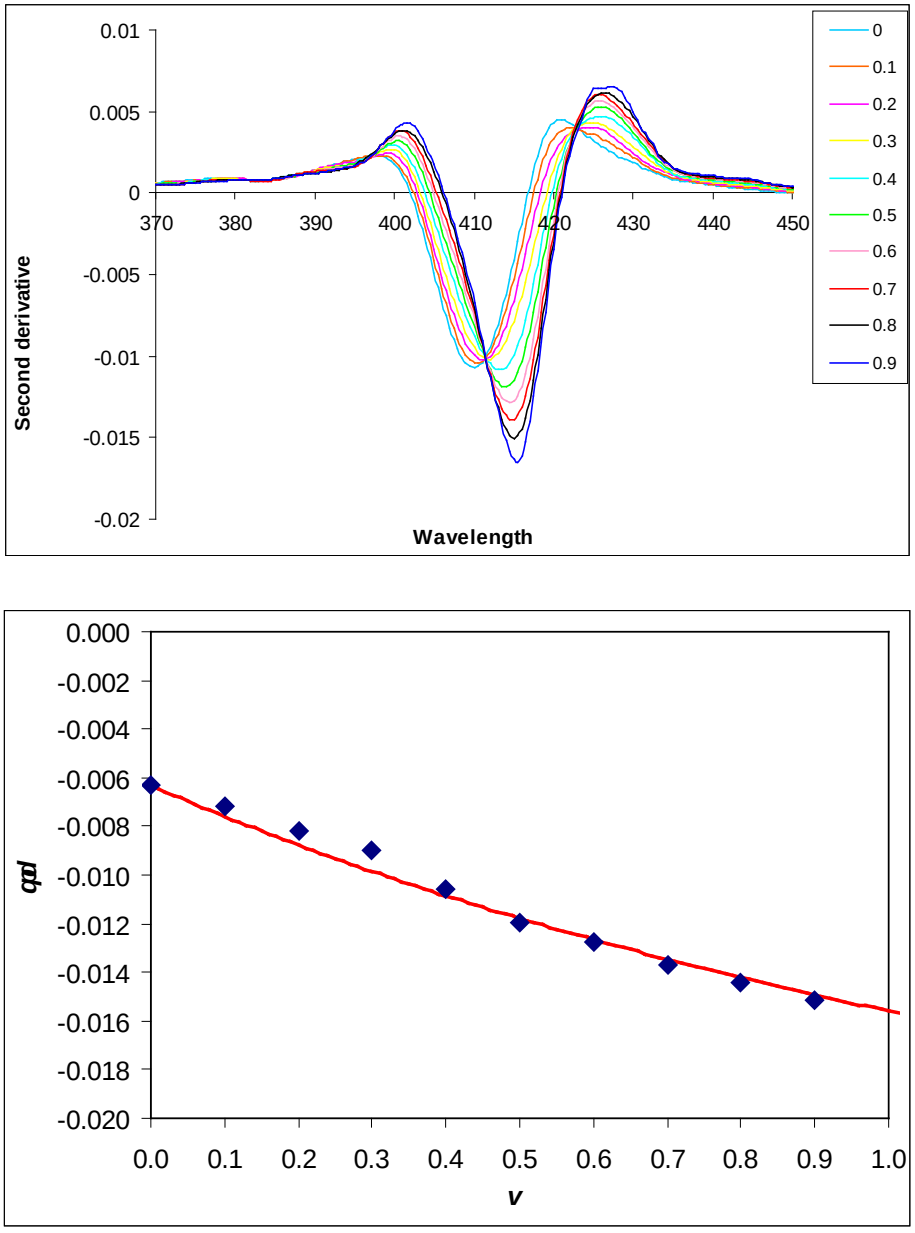


Figure 3: Top: second-derivative UV–vis spectra observed during a titration of a stock solution of S10OC10 into a solution of cytochrome C. Below: corresponding isotherm for complex formation between S10OC10 and cytochrome C; the drawn curve represents the calculated isotherms for 1:1 binding, whereas the filled diamonds are experimental values.

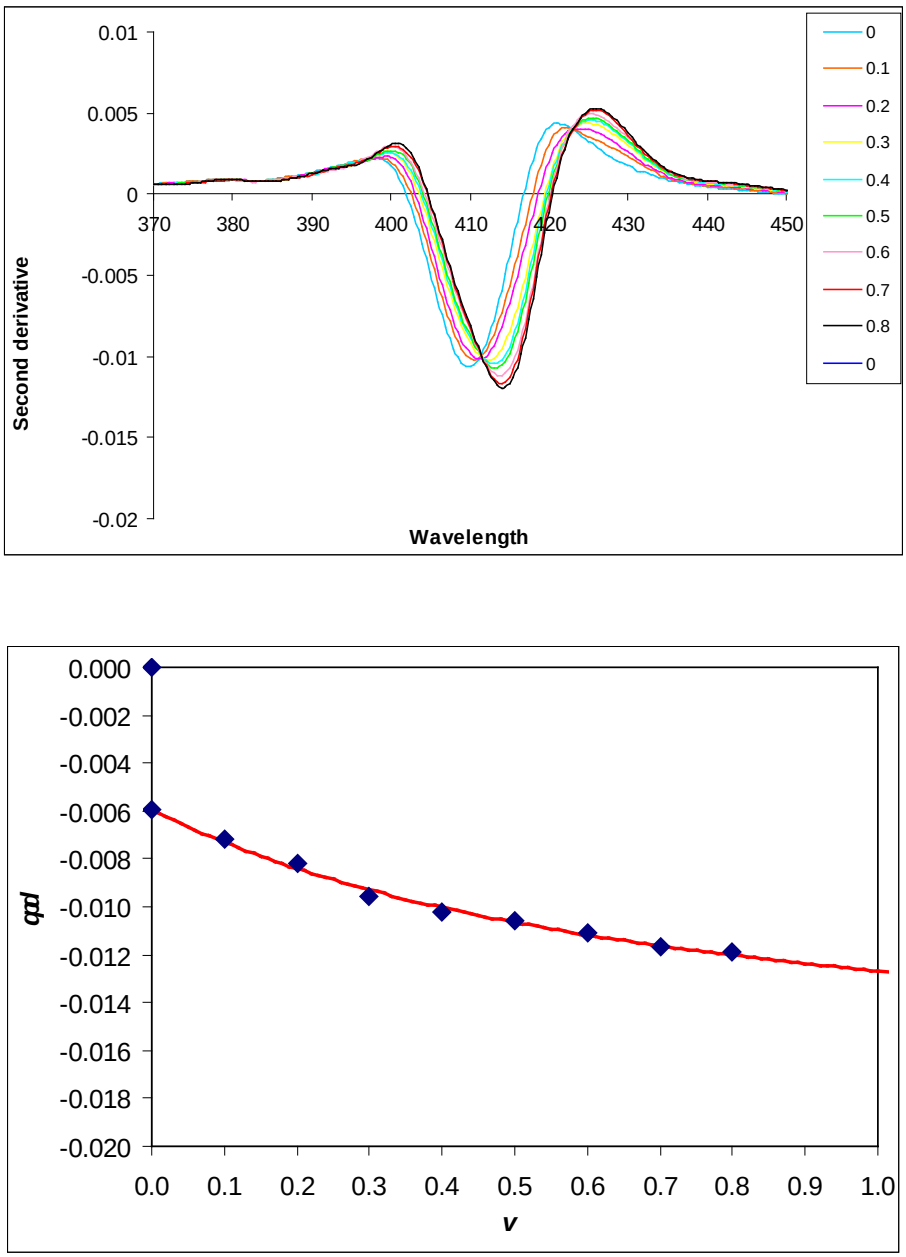


Figure 4: Top: second-derivative UV–vis spectra observed during a titration of a stock solution of S10CH10 into a solution of cytochrome C. Below: isotherm for complex formation between S10CH10 and cytochrome C; the drawn curve represents the calculated isotherms for 1:1 binding, whereas the filled diamonds are experimental values.

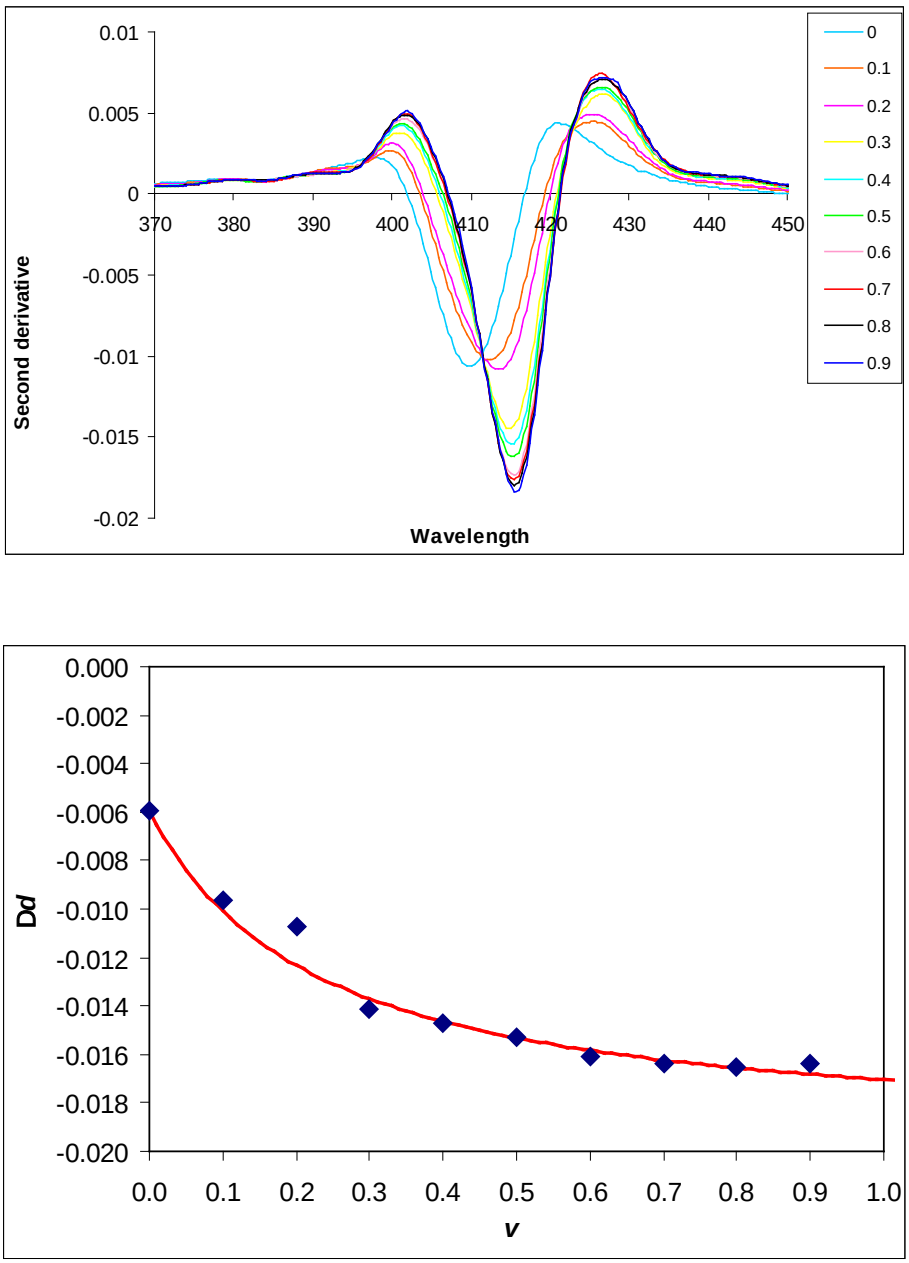


Figure 5: Top: second-derivative UV–vis spectra observed during a titration of a stock solution of S10CH15 into a solution of cytochrome C. Below: corresponding isotherm for complex formation between S10CH15 and cytochrome C; the drawn curve represents the calculated isotherms for 1:1 binding, whereas the filled diamonds are experimental values.

ITC titration

ITC titrations were performed with micro-calorimeter VP-ITC at 25 °C. The initial volume of the solution in the cell was 1.4211 mL. 10 mM Hepes (pH 7) was used as the buffer. In all the titrations, protein solutions were used as hosts in the cell and polymer solutions as ligands. The dilution effect of the polymers were measured as reference and subtracted from the titrations before the calculation. Two kinds of evaluation methods incorporated in the software were used to get the best fittings and smallest errors: one set of sites and sequential binding with 2 binding sites. The macroscopic binding constant, change of enthalpy and entropy are given here. For every pair, two titration curves are shown. The left curve is calculated with the concentration of the polymer, and the right one is calculated with the concentration of the functional monomer.

1. B20CH15 vs. Histone

Sequential binding two sites

K_1 = 5.93E7 ± 11% M^{-1} ΔH_1 = 28.7 ± 7% kcal M^{-1} ΔS_1 = 0.130 kcal M^{-1} K^{-1}

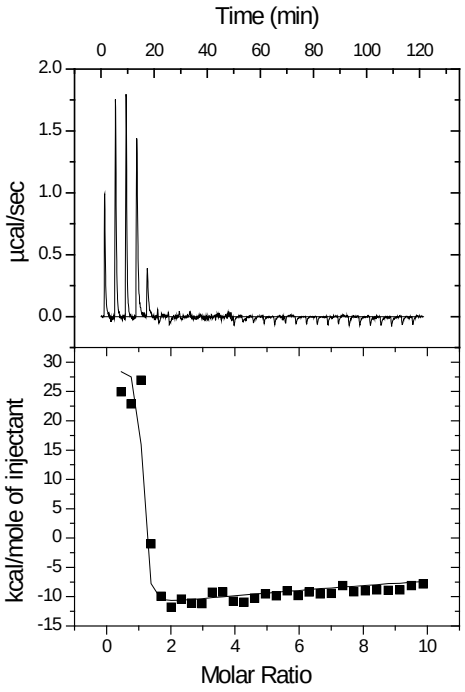
K_2 = 774 ± 10% M^{-1} ΔH_2 = -3.87E3 ± 94% kcal M^{-1} ΔS_2 = −13.0 kcal M^{-1} K^{-1}

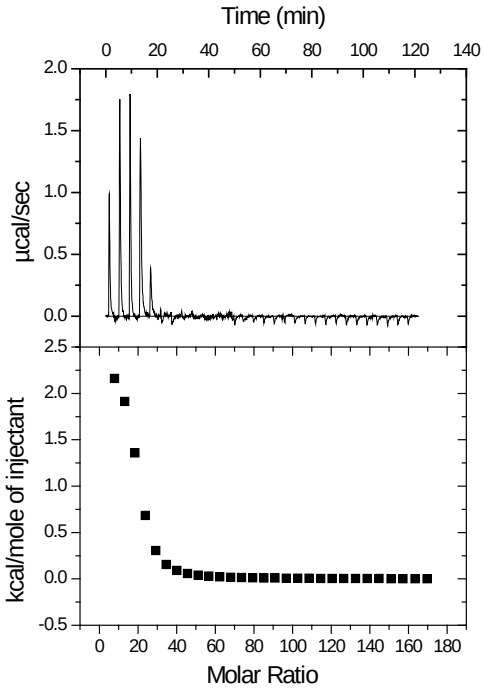
Table S1: ITC titration data between B20CH15 and Histone in buffer.

$C_{Histone}$ [M]	$C_{B20CH15}$ [M]	Ratio $C_{B20CH15}/C_{Histone}$	Heat exchange [µcal]
3.89E-06	1.76E-06	0.45	55.54
3.86E-06	2.93E-06	0.76	53.45
3.83E-06	4.09E-06	1.07	60.95
3.81E-06	5.24E-06	1.38	15.79
3.78E-06	6.38E-06	1.69	0.14
3.75E-06	7.51E-06	2.00	-2.56
3.73E-06	8.63E-06	2.31	0.09
3.70E-06	9.75E-06	2.64	-0.81
3.67E-06	1.09E-05	2.96	-1.77
3.65E-06	1.20E-05	3.27	0.29
3.62E-06	1.31E-05	3.60	0.81
3.60E-06	1.41E-05	3.93	-3.03
3.57E-06	1.52E-05	4.26	-2.88
3.55E-06	1.63E-05	4.58	-2.09
3.52E-06	1.73E-05	4.92	-2.26
3.50E-06	1.84E-05	5.25	-2.6
3.47E-06	1.94E-05	5.59	-0.3
3.45E-06	2.05E-05	5.93	-2.65
3.42E-06	2.15E-05	6.28	-2.31
3.40E-06	2.25E-05	6.61	-2.67
3.38E-06	2.35E-05	6.95	-2.74
3.35E-06	2.45E-05	7.31	-1.13
3.33E-06	2.55E-05	7.65	-2.67
3.30E-06	2.65E-05	8.02	-2.94
3.28E-06	2.74E-05	8.37	-3.17
3.26E-06	2.84E-05	8.71	-3.88
3.23E-06	2.94E-05	9.09	-3.55
3.21E-06	3.03E-05	9.44	-3.15
3.19E-06	3.13E-05	9.80	-1.92

Dilution effect of B20CH15 in buffer

Added volume µL	$C_{B20CH15}$ [M]	Heat exchange [µcal]
5	3.65E-07	1.46
10	1.09E-06	2.13
10	1.81E-06	1.84
10	2.53E-06	1.09
10	3.24E-06	1.68
10	3.95E-06	1.03
10	4.65E-06	0.57
10	5.34E-06	0.55
10	6.03E-06	0.25
10	6.72E-06	-0.18
10	7.40E-06	-0.32
10	8.08E-06	-0.21
10	8.75E-06	-0.48
10	9.41E-06	-0.50
10	1.01E-05	-0.32
10	1.07E-05	-0.54
10	1.14E-05	-0.65
10	1.20E-05	-0.80
10	1.27E-05	-0.65
10	1.33E-05	-0.83
10	1.39E-05	-0.66
10	1.45E-05	-0.78
10	1.52E-05	-0.61
10	1.58E-05	-0.70
10	1.64E-05	-0.93
10	1.70E-05	-0.72
10	1.76E-05	-0.77
10	1.82E-05	-0.91
10	1.88E-05	-0.87
10	1.94E-05	-0.95


Time (min)
µcal/sec
kcal/mole of injectant
Molar Ratio

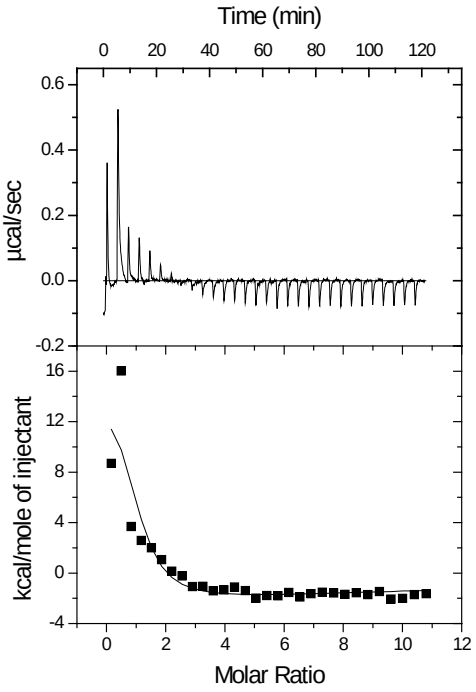

Time (min)
µcal/sec
kcal/mole of injectant
Molar Ratio

2. B20CH15 vs. Lysozyme

Sequential binding two sites
K_1 = 1.09E6±60% M^{-1} ΔH_1 = 14.9±24% kcal M^{-1} ΔS_1 = 0.077 kcal M^{-1} K^{-1}
K_2 = 3.45E03±32% M^{-1} ΔH_2 = −2.16±27% kcal M^{-1} ΔS_2 = −0.071 kcal M^{-1} K^{-1}

Table S2: ITC titration data between B20CH15 and Lysozyme in buffer.

$C_{Lysozyme}$ [M]	$C_{B20CH15}$ [M]	Ratio $C_{B20CH15}/C_{Lysozyme}$	Heat exchange [µcal]
3.44E-06	5.71E-07	0.17	7.06
3.41E-06	1.71E-06	0.50	26.07
3.39E-06	2.84E-06	0.84	5.99
3.37E-06	3.96E-06	1.18	4.18
3.34E-06	5.07E-06	1.52	3.24
3.32E-06	6.18E-06	1.86	1.73
3.30E-06	7.27E-06	2.20	0.22
3.27E-06	8.36E-06	2.56	-0.38
3.25E-06	9.44E-06	2.90	-1.76
3.23E-06	1.05E-05	3.25	-1.73
3.20E-06	1.16E-05	3.62	-2.30
3.18E-06	1.26E-05	3.97	-2.17
3.16E-06	1.37E-05	4.33	-1.81
3.14E-06	1.47E-05	4.69	-2.26
3.12E-06	1.58E-05	5.05	-3.24
3.09E-06	1.68E-05	5.43	-2.90
3.07E-06	1.78E-05	5.79	-2.95
3.05E-06	1.88E-05	6.16	-2.53
3.03E-06	1.98E-05	6.53	-3.11
3.01E-06	2.08E-05	6.91	-2.67
2.99E-06	2.18E-05	7.28	1.49
2.96E-06	2.28E-05	7.69	1.59
2.94E-06	2.37E-05	8.07	1.75
2.92E-06	2.47E-05	8.45	1.55
2.90E-06	2.56E-05	8.84	1.78
2.88E-06	2.66E-05	9.23	1.40
2.86E-06	2.75E-05	9.62	0.36
2.84E-06	2.84E-05	10.01	0.29
2.82E-06	2.94E-05	10.41	1.79
2.80E-06	3.03E-05	10.81	1.66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kcal/mole of injectant
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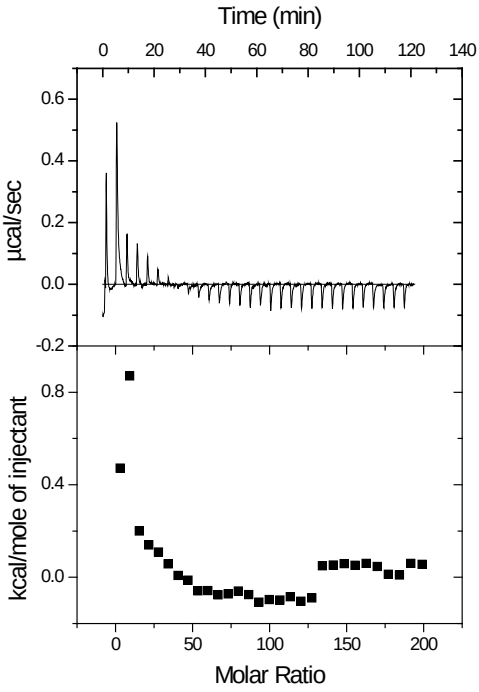
0 2 4 6 8 10 12
Molar Ratio

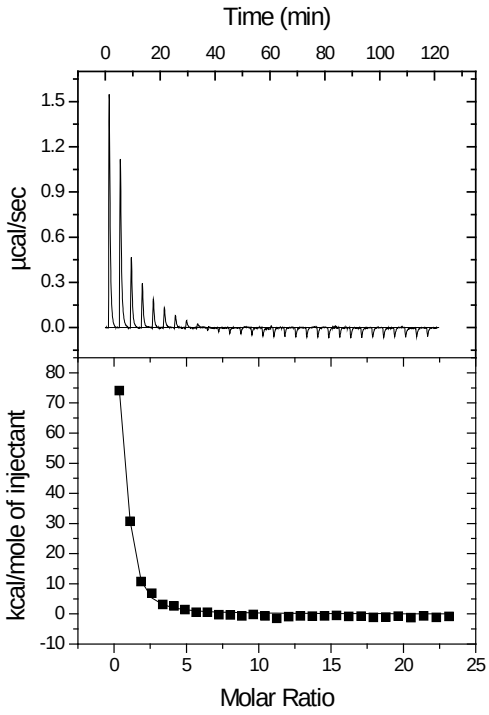

Time (min)
0 20 40 60 80 100 120 140
µcal/sec
0.6 0.4 0.2 0.0 -0.2
kcal/mole of injectant
0.8 0.4 0.0
0 50 100 150 200
Molar Ratio

3. B20CH15 vs. BSA

N = 5.29 ± 45% K = 2.65E6 ± 28% M^{-1}
ΔH = 15.4 ± 49% kcal M^{-1} ΔS = 0.074 kcal M^{-1} K^{-1}

Table S3: ITC titration data between B20CH15 and BSA in buffer.

C_{BSA} [M]	$C_{B20CH15}$ [M]	Ratio $C_{B20CH15}/C_{BSA}$	Heat exchange [µcal]
1.37E-06	5.05E-07	0.37	55.30
1.36E-06	1.51E-06	1.11	47.04
1.35E-06	2.51E-06	1.86	17.99
1.34E-06	3.50E-06	2.61	11.32
1.33E-06	4.48E-06	3.37	6.76
1.32E-06	5.46E-06	4.14	5.22
1.31E-06	6.43E-06	4.91	2.81
1.3E-06	7.39E-06	5.68	1.50
1.29E-06	8.34E-06	6.47	1.11
1.28E-06	9.29E-06	7.26	-0.65
1.27E-06	1.02E-05	8.06	-1.01
1.26E-06	1.12E-05	8.87	-1.32
1.25E-06	1.21E-05	9.67	-0.93
1.25E-06	1.30E-05	10.41	-1.70
1.24E-06	1.39E-05	11.23	-2.65
1.23E-06	1.48E-05	12.06	-2.09
1.22E-06	1.57E-05	12.89	-1.93
1.21E-06	1.66E-05	13.74	-2.16
1.2E-06	1.75E-05	14.58	-1.90
1.19E-06	1.84E-05	15.45	-1.91
1.19E-06	1.93E-05	16.18	-2.20
1.18E-06	2.01E-05	17.04	-2.21
1.17E-06	2.10E-05	17.92	-2.58
1.16E-06	2.18E-05	18.80	-2.50
1.15E-06	2.27E-05	19.70	-2.38
1.14E-06	2.35E-05	20.61	-2.84
1.14E-06	2.43E-05	21.32	-2.09
1.13E-06	2.51E-05	22.24	-2.98
1.12E-06	2.60E-05	23.17	-2.46
1.11E-06	2.68E-05	24.10	-2.41


Time (min)
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µcal/sec
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kcal/mole of injectant
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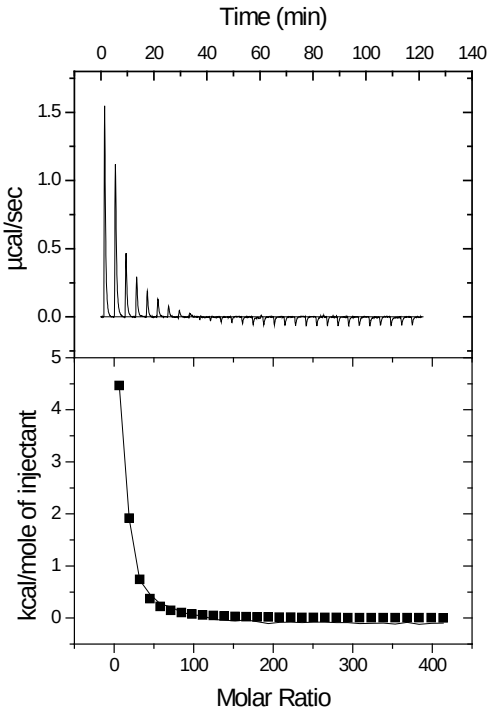
0 5 10 15 20 25
Molar Ratio


Time (min)
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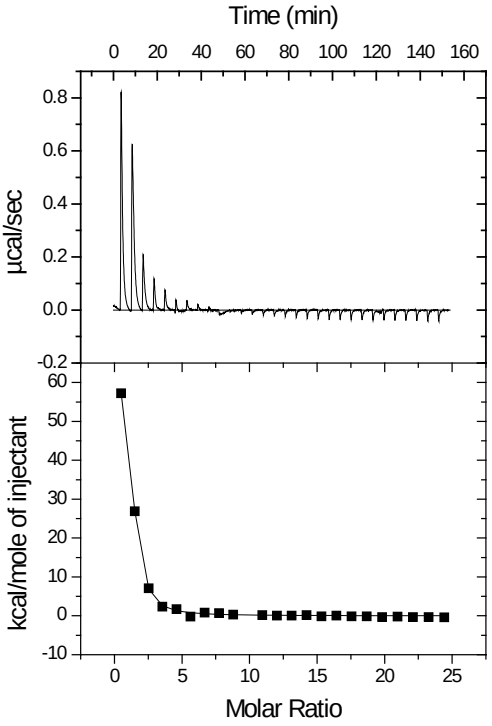
µcal/sec
1.5 1.0 0.5 0.0
kcal/mole of injectant
5 4 3 2 1 0
0 100 200 300 400
Molar Ratio

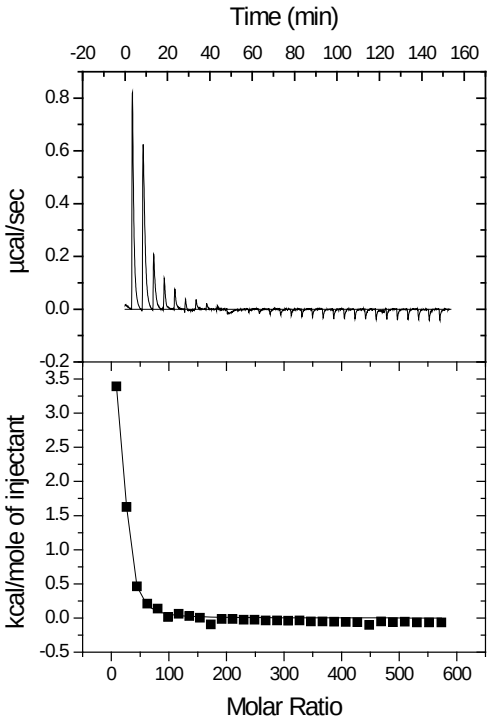
4. B20CH15 vs. Hemoglobin

N = 0.87 ± 2% K = 3.99E6 ± 9% M^{-1}
ΔH = 81.6E ± 3% kcal M^{-1} ΔS = 0.34 kcal M^{-1} K^{-1}

Table S4: ITC titration data between B20CH15 and Hemoglobin in buffer.

C_{Hemo} [M]	$C_{B20CH15}$ [M]	Ratio $C_{B20CH15}/C_{Hemo}$	Heat exchange [µcal]
1.47E-06	5.72E-07	0.39	48.37
1.47E-06	1.71E-06	1.16	46.28
1.46E-06	2.84E-06	1.95	13.15
1.44E-06	3.97E-06	2.75	5.99
1.43E-06	5.08E-06	3.55	3.90
1.43E-06	6.19E-06	4.33	0.39
1.42E-06	7.28E-06	5.14	1.69
1.4E-06	8.38E-06	5.97	0.81
1.39E-06	9.46E-06	6.80	0.14
1.39E-06	1.05E-05	7.57	-2.71
1.38E-06	1.16E-05	8.42	-0.41
1.37E-06	1.27E-05	9.27	-0.45
1.35E-06	1.37E-05	10.14	-0.70
1.35E-06	1.48E-05	10.91	-0.70
1.34E-06	1.58E-05	11.78	-1.08
1.33E-06	1.68E-05	12.68	-1.00
1.31E-06	1.78E-05	13.58	-1.16
1.31E-06	1.88E-05	14.35	-1.09
1.3E-06	1.98E-05	15.26	-1.45
1.29E-06	2.08E-05	16.14	-1.47
1.28E-06	2.18E-05	17.03	-1.54
1.27E-06	2.28E-05	17.92	-1.66
1.26E-06	2.38E-05	18.81	-1.81
1.25E-06	2.47E-05	19.71	-2.91
1.25E-06	2.57E-05	20.62	-1.49
1.24E-06	2.66E-05	21.52	-1.74
1.23E-06	2.76E-05	22.44	-1.59
1.22E-06	2.85E-05	23.36	-1.92
1.21E-06	2.94E-05	24.29	-1.82
1.2E-06	3.00E-05	24.95	-1.88


Time (min)
µcal/sec
kcal/mole of injectant
Molar Ratio


Time (min)
µcal/sec
kcal/mole of injectant
Molar Ratio

5. T20CH15 vs. Histone

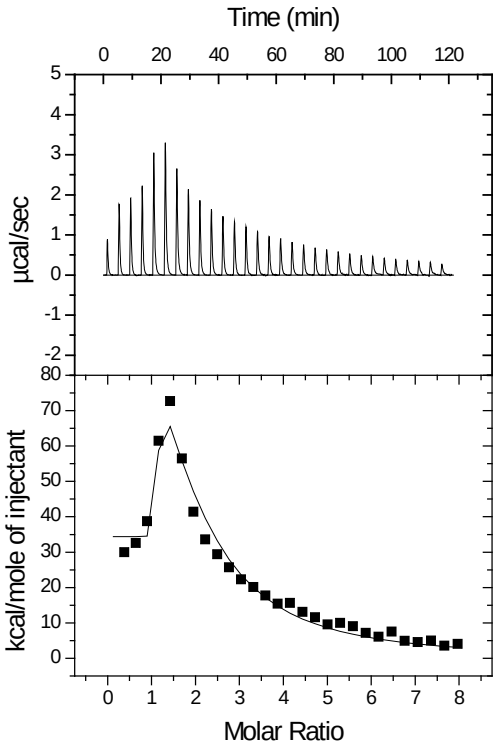
Sequential binding two sites
K_1 = 3.05E9 ± 43% M^{-1} ΔH_1 = 34.3 ± 5% kcal M^{-1} ΔS_1 = 0.161 kcal M^{-1} K^{-1}
K_2 = 2.51E5 ± 9% M^{-1} ΔH_2 = 158 ± 1% kcal M^{-1} ΔS_2 = 0.557 kcal M^{-1} K^{-1}

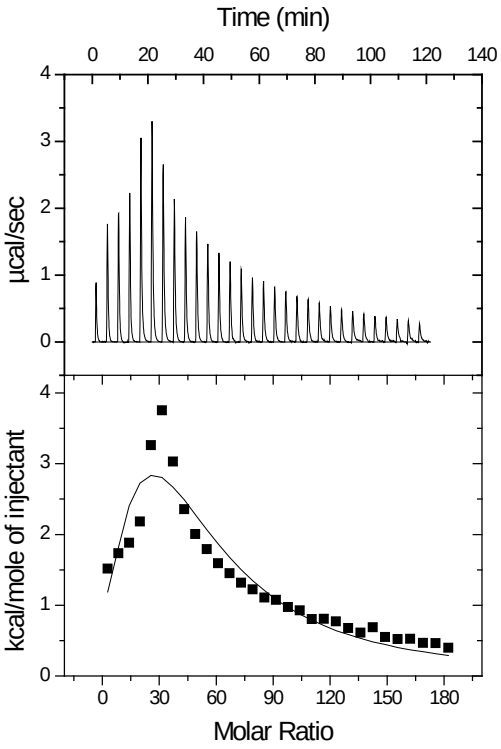
Table S5: Dilution effect of T20CH15 in buffer.

Added volume µL	$C_{T20CH15}$ [M]	Heat exchange [µcal]
5	3.65E-07	-1.21
10	1.09E-06	8.54
10	1.81E-06	9.33
10	2.53E-06	9.74
10	3.24E-06	10.84
10	3.95E-06	10.42
10	4.65E-06	10.69
10	5.34E-06	10.93
10	6.03E-06	11.06
10	6.72E-06	10.52
10	7.40E-06	9.77
10	8.08E-06	10.12
10	8.75E-06	9.28
10	9.41E-06	9.65
10	1.01E-05	9.36
10	1.07E-05	8.43
10	1.14E-05	8.66
10	1.20E-05	9.22
10	1.27E-05	8.49
10	1.33E-05	8.09
10	1.39E-05	8.28
10	1.45E-05	8.13
10	1.52E-05	7.68
10	1.58E-05	7.92
10	1.64E-05	7.51
10	1.70E-05	7.19
10	1.76E-05	6.83
10	1.82E-05	7.01
10	1.88E-05	6.42
10	1.94E-05	7.06

ITC titration data between T20CH15 and Histone in buffer

$C_{Histone}$ [M]	$C_{T20CH15}$ [M]	Ratio $C_{T20CH15}/C_{Histone}$	Heat exchange [µcal]
3.87E-06	1.48E-06	0.38	53.92
3.84E-06	2.46E-06	0.64	58.63
3.81E-06	3.43E-06	0.90	67.92
3.79E-06	4.4E-06	1.16	101.46
3.76E-06	5.36E-06	1.43	116.79
3.74E-06	6.31E-06	1.69	94.28
3.71E-06	7.26E-06	1.96	73.29
3.68E-06	8.19E-06	2.23	62.44
3.66E-06	9.12E-06	2.49	55.75
3.63E-06	1.01E-05	2.77	49.58
3.61E-06	1.1E-05	3.04	45.19
3.58E-06	1.19E-05	3.32	41.05
3.56E-06	1.28E-05	3.59	38.10
3.53E-06	1.37E-05	3.87	34.44
3.51E-06	1.46E-05	4.15	33.51
3.48E-06	1.54E-05	4.44	30.31
3.46E-06	1.63E-05	4.72	28.83
3.43E-06	1.72E-05	5.01	25.06
3.41E-06	1.81E-05	5.29	25.12
3.38E-06	1.89E-05	5.59	24.04
3.36E-06	1.98E-05	5.88	21.12
3.34E-06	2.06E-05	6.16	19.03
3.31E-06	2.14E-05	6.47	21.39
3.29E-06	2.22E-05	6.76	17.15
3.27E-06	2.31E-05	7.05	16.18
3.24E-06	2.39E-05	7.37	16.35
3.22E-06	2.47E-05	7.66	14.50
3.2E-06	2.55E-05	7.96	14.39
3.17E-06	2.63E-05	8.29	12.43


Time (min)
µcal/sec
kcal/mole of injectant
Molar Ratio

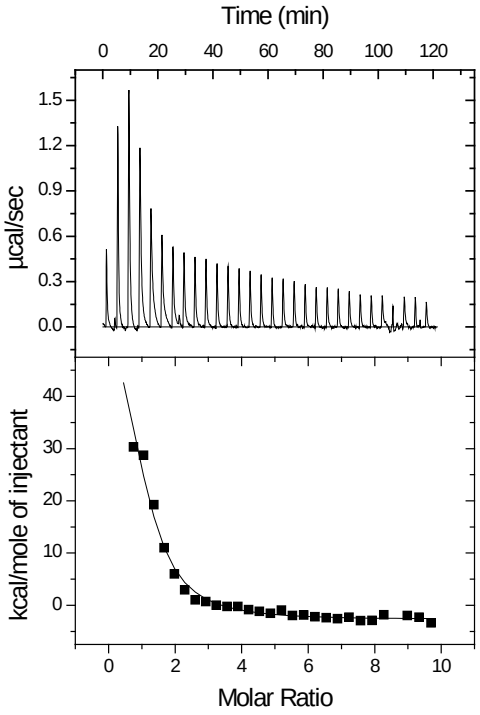

Time (min)
µcal/sec
kcal/mole of injectant
Molar Ratio

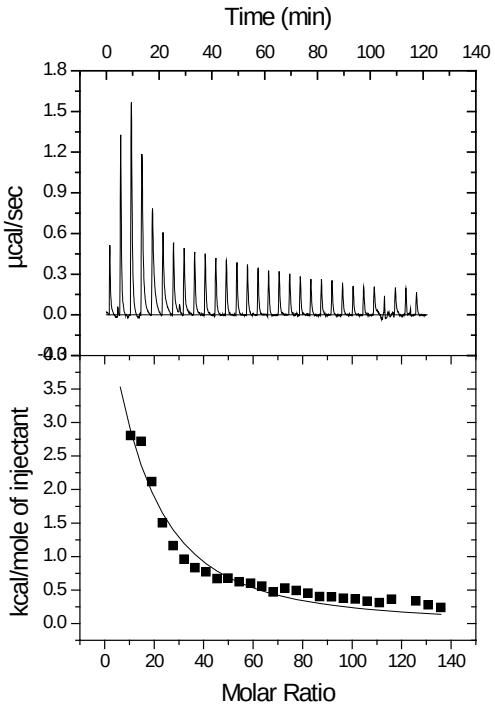
6. T20CH15 vs. Lysozyme

Sequential binding two sites
K_1 = 7.69E5 ± 22% M^{-1} ΔH_1 = 69.4 ± 7% kcal M^{-1} ΔS_1 = 0.260 kcal M^{-1} K^{-1}
K_2 = 3.32E03 ± 29% M^{-1} ΔH_2 = −391 ± 91% kcal M^{-1} ΔS_2 = −1.30 kcal M^{-1} K^{-1}

Table S6: ITC titration data between T20CH15 and Lysozyme in buffer.

$C_{Lysozyme}$ [M]	$C_{T20CH15}$ [M]	Ratio $C_{T20CH15}/C_{Lysozyme}$	Heat exchange [µcal]
3.39E-06	2.55E-06	0.75	57.36
3.37E-06	3.55E-06	1.05	55.61
3.34E-06	4.55E-06	1.36	43.29
3.32E-06	5.54E-06	1.67	30.70
3.30E-06	6.53E-06	1.98	23.74
3.27E-06	7.50E-06	2.29	19.62
3.25E-06	8.47E-06	2.61	17.02
3.23E-06	9.43E-06	2.92	15.79
3.20E-06	1.04E-05	3.25	13.73
3.18E-06	1.13E-05	3.57	13.81
3.16E-06	1.23E-05	3.89	12.72
3.14E-06	1.32E-05	4.21	12.29
3.12E-06	1.41E-05	4.53	11.41
3.09E-06	1.51E-05	4.87	9.64
3.07E-06	1.60E-05	5.20	10.79
3.05E-06	1.69E-05	5.53	10.03
3.03E-06	1.78E-05	5.86	9.25
3.01E-06	1.87E-05	6.20	8.18
2.99E-06	1.95E-05	6.54	8.12
2.96E-06	2.04E-05	6.90	7.68
2.94E-06	2.13E-05	7.24	7.50
2.92E-06	2.22E-05	7.59	6.80
2.90E-06	2.30E-05	7.93	6.37
2.88E-06	2.39E-05	8.28	7.42
2.86E-06	2.47E-05	8.63	1.92
2.84E-06	2.55E-05	8.99	6.91
2.82E-06	2.63E-05	9.34	5.72
2.80E-06	2.72E-05	9.70	4.87


Time (min)
0 20 40 60 80 100 120
µcal/sec
1.5 1.2 0.9 0.6 0.3 0.0
kcal/mole of injectant
40 30 20 10 0
0 2 4 6 8 10
Molar Ratio

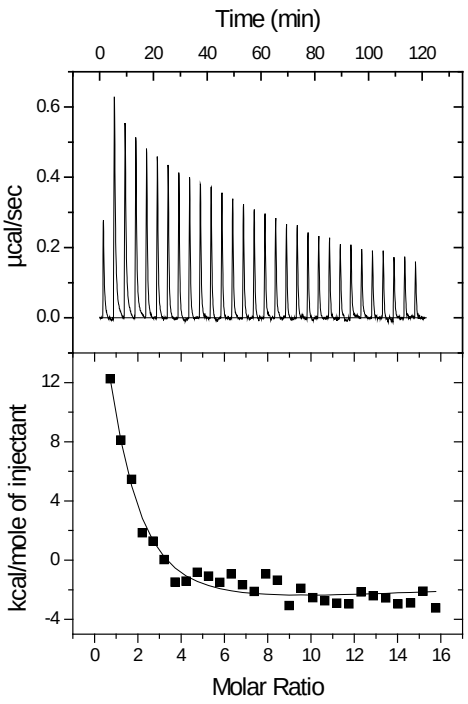

Time (min)
0 20 40 60 80 100 120 140
µcal/sec
1.8 1.5 1.2 0.9 0.6 0.3 0.0
kcal/mole of injectant
3.5 3.0 2.5 2.0 1.5 1.0 0.5 0.0
0 20 40 60 80 100 120 140
Molar Ratio

7. T20CH15 vs. Proteinase K

Sequential binding two sites
K_1 = 4.44E5 ± 27% M^{-1} ΔH_1 = 36.6 ± 12% kcal M^{-1} ΔS_1 = 0.148 kcal M^{-1} K^{-1}
K_2 = 3.43E03 ± 81% M^{-1} ΔH_2 = −600 ± 17% kcal M^{-1} ΔS_2 = -1.99 kcal M^{-1} K^{-1}

Table S7: ITC titration data between T20CH15 and Proteinase K in buffer.

$C_{Proteinase\ K}$ [M]	$C_{T20CH15}$ [M]	Ratio $C_{T20CH15}/C_{Pro.K}$	Heat exchange [µcal]
1.96E-06	1.43E-06	0.73	27.72
1.95E-06	2.37E-06	1.22	23.25
1.93E-06	3.31E-06	1.72	20.17
1.92E-06	4.24E-06	2.21	16.67
1.90E-06	5.17E-06	2.72	15.41
1.89E-06	6.09E-06	3.22	14.03
1.88E-06	7.00E-06	3.72	12.28
1.87E-06	7.90E-06	4.22	12.54
1.85E-06	8.80E-06	4.76	12.71
1.84E-06	9.69E-06	5.27	11.39
1.83E-06	1.06E-05	5.78	11.17
1.81E-06	1.15E-05	6.33	10.99
1.80E-06	1.23E-05	6.84	10.31
1.79E-06	1.32E-05	7.37	9.42
1.78E-06	1.41E-05	7.89	9.90
1.76E-06	1.49E-05	8.47	9.46
1.75E-06	1.57E-05	8.99	7.80
1.74E-06	1.66E-05	9.53	8.64
1.73E-06	1.74E-05	10.06	7.22
1.71E-06	1.82E-05	10.66	7.05
1.70E-06	1.91E-05	11.21	6.72
1.69E-06	1.99E-05	11.75	6.14
1.68E-06	2.07E-05	12.30	7.40
1.67E-06	2.15E-05	12.85	6.66
1.65E-06	2.23E-05	13.48	6.01
1.64E-06	2.30E-05	14.04	4.99
1.63E-06	2.38E-05	14.61	5.18
1.62E-06	2.46E-05	15.17	5.71
1.61E-06	2.53E-05	15.74	4.66


Time (min)
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µcal/sec
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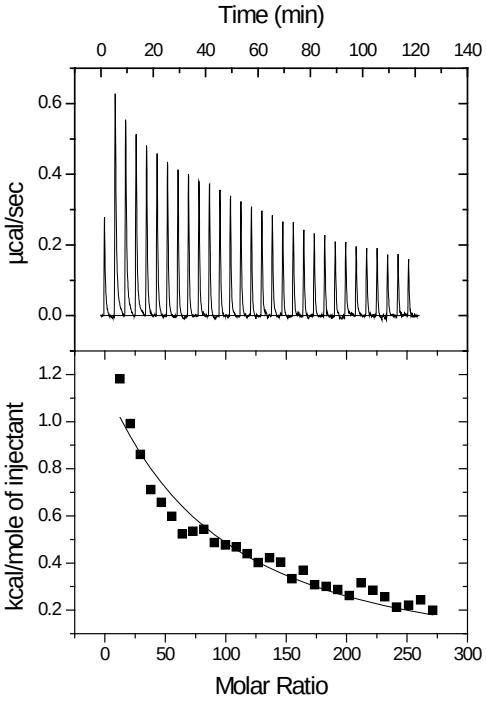
0.4
0.2
0.0
kcal/mole of injectant
12
8
4
0
-4
0 2 4 6 8 10 12 14 16
Molar Ratio

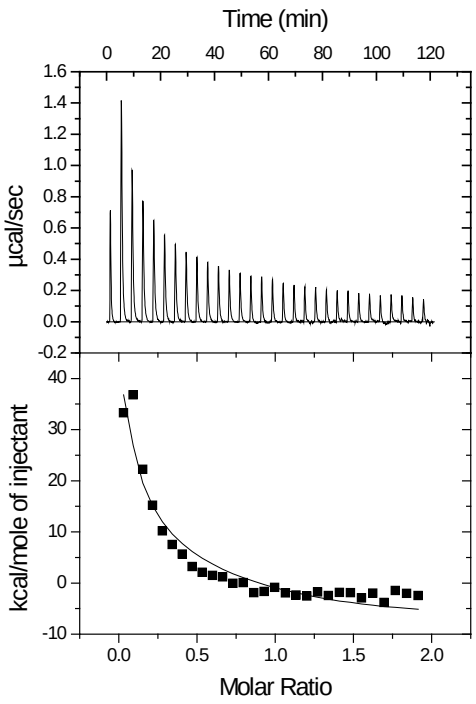

Time (min)
0 20 40 60 80 100 120 140
µcal/sec
0.6
0.4
0.2
0.0
kcal/mole of injectant
1.2
1.0
0.8
0.6
0.4
0.2
0 50 100 150 200 250 300
Molar Ratio

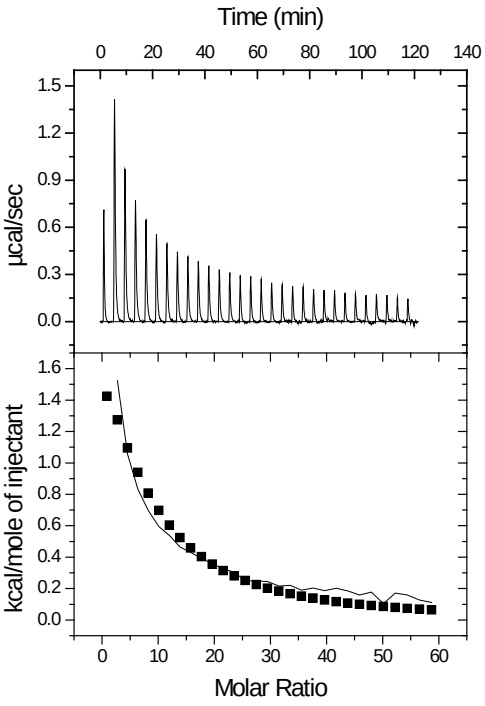
8. T20CH15 vs. BSA

Sequential binding two sites
K_1 = 1.65E4 ± 33% M^{-1} ΔH_1 = 228 ± 26% kcal M^{-1} ΔS_1 = 0.783 kcal M^{-1} K^{-1}
K_2 = 9.44E03 ± 19% M^{-1} ΔH_2 = −246 ± 87% kcal M^{-1} ΔS_2= −0.797 kcal M^{-1} K^{-1}

Table S8: ITC titration data between T20CH15 and BSA in buffer.

C_{BSA} [M]	$C_{T20CH15}$ [M]	Ratio $C_{T20CH15}/C_{BSA}$	Heat exchange [µcal]
1.37E-05	4.17E-07	0.03	18.39
1.36E-05	1.25E-06	0.09	53.50
1.35E-05	2.07E-06	0.15	37.06
1.34E-05	2.89E-06	0.22	29.20
1.33E-05	3.70E-06	0.28	24.47
1.32E-05	4.51E-06	0.34	20.86
1.31E-05	5.31E-06	0.41	18.90
1.30E-05	6.10E-06	0.47	16.30
1.29E-05	6.89E-06	0.53	15.13
1.28E-05	7.68E-06	0.60	13.75
1.27E-05	8.45E-06	0.66	12.59
1.26E-05	9.22E-06	0.73	11.48
1.26E-05	9.99E-06	0.80	10.67
1.25E-05	1.08E-05	0.86	8.79
1.24E-05	1.15E-05	0.93	8.71
1.23E-05	1.23E-05	1.00	8.62
1.22E-05	1.30E-05	1.06	7.60
1.21E-05	1.37E-05	1.13	7.73
1.20E-05	1.45E-05	1.20	6.65
1.19E-05	1.52E-05	1.27	7.14
1.19E-05	1.59E-05	1.34	6.56
1.18E-05	1.66E-05	1.41	7.08
1.17E-05	1.73E-05	1.48	6.52
1.16E-05	1.80E-05	1.55	5.58
1.15E-05	1.87E-05	1.62	6.22
1.14E-05	1.94E-05	1.70	3.67
1.14E-05	2.01E-05	1.77	6.02
1.13E-05	2.08E-05	1.84	5.61
1.12E-05	2.14E-05	1.91	4.44
1.11E-05	2.21E-05	1.99	3.90


Time (min)
µcal/sec
kcal/mole of injectant
Molar Ratio

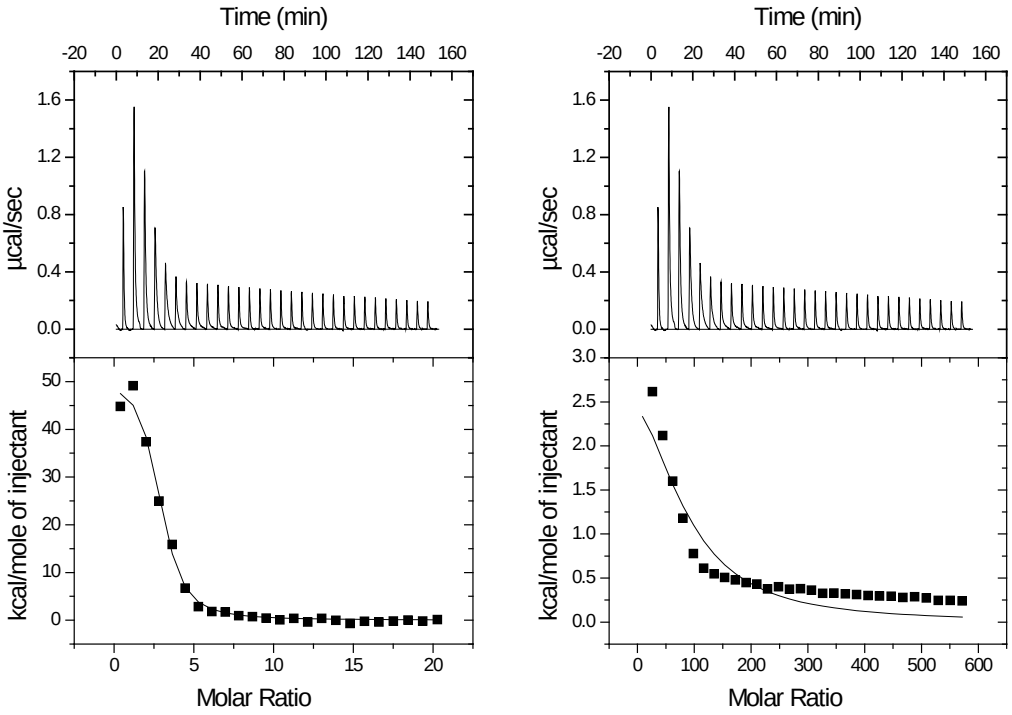

Time (min)
µcal/sec
kcal/mole of injectant
Molar Ratio

9. T20CH15 vs. Hemoglobin

N = 2.66 ± 3% K = 4.39E6 ± 19% M^{-1}
ΔH = 5.17E4 ± 3% kcal M^{-1} ΔS = 0.24 kcal M^{-1} K^{-1}

Table S9: ITC titration data between T20CH15 and Hemoglobin in buffer.

C_{Hemo} [M]	$C_{T20CH15}$ [M]	Ratio $C_{T20CH15}/C_{Hemo}$	Heat exchange [µcal]
1.13E-06	4.53E-07	0.40	74.36
1.13E-06	1.35E-06	1.19	60.16
1.12E-06	2.25E-06	2.01	45.49
1.11E-06	3.14E-06	2.83	33.48
1.10E-06	4.02E-06	3.65	22.07
1.10E-06	4.90E-06	4.45	17.33
1.09E-06	5.77E-06	5.29	15.57
1.08E-06	6.63E-06	6.14	14.38
1.07E-06	7.49E-06	7.00	13.57
1.07E-06	8.34E-06	7.79	12.72
1.06E-06	9.18E-06	8.66	12.28
1.05E-06	1.00E-05	9.54	10.64
1.04E-06	1.09E-05	10.43	11.40
1.04E-06	1.17E-05	11.22	10.63
1.03E-06	1.25E-05	12.13	10.78
1.02E-06	1.33E-05	13.04	10.25
1.01E-06	1.41E-05	13.97	9.24
1.01E-06	1.49E-05	14.76	9.32
1.00E-06	1.57E-05	15.70	9.11
9.93E-07	1.65E-05	16.61	8.85
9.86E-07	1.73E-05	17.52	8.58
9.79E-07	1.80E-05	18.43	8.41
9.72E-07	1.88E-05	19.35	8.35

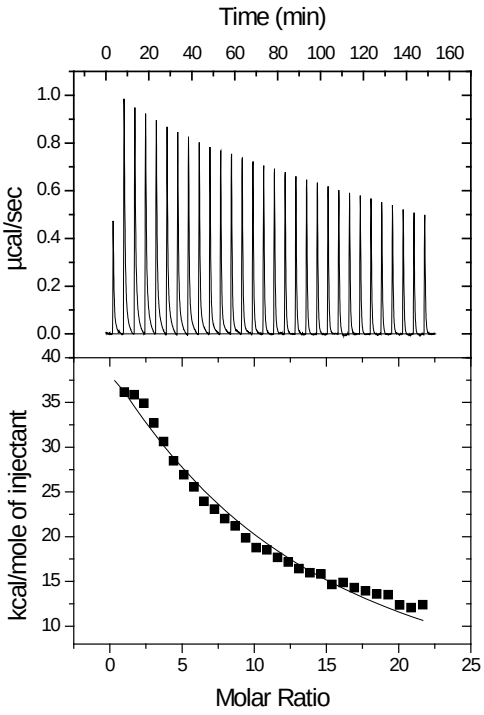

Time (min)
-20 0 20 40 60 80 100 120 140 160
µcal/sec
1.6 1.2 0.8 0.4 0.0
kcal/mole of injectant
50 40 30 20 10 0
0 5 10 15 20
Molar Ratio
Time (min)
-20 0 20 40 60 80 100 120 140 160
µcal/sec
1.6 1.2 0.8 0.4 0.0
kcal/mole of injectant
3.0 2.5 2.0 1.5 1.0 0.5 0.0
0 100 200 300 400 500 600
Molar Ratio

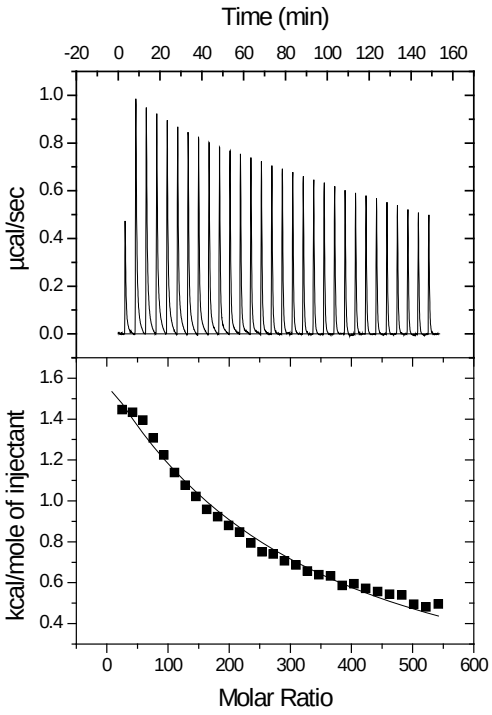
10. S20CH15 vs. Cytochrome C

N= 7.31±51% K= 3.40E4 ± 28% M^{-1}
ΔH = 147 ± 68% kcal M^{-1} ΔS = 0.512 kcal M^{-1} K^{-1}

Table S10: ITC titration data between S20CH15 and Cytochrome C in buffer.

C_{Cyto} [M]	$C_{S20CH15}$ [M]	Ratio $C_{S20CH15}/C_{Cyto}$	Heat exchange [µcal]
1.39E-06	1.39E-06	1.00	47.96
1.38E-06	2.31E-06	1.67	47.54
1.37E-06	3.23E-06	2.36	46.27
1.36E-06	4.13E-06	3.04	43.37
1.35E-06	5.03E-06	3.73	40.62
1.34E-06	5.93E-06	4.43	37.74
1.33E-06	6.81E-06	5.12	35.69
1.32E-06	7.69E-06	5.83	33.88
1.31E-06	8.57E-06	6.54	31.76
1.30E-06	9.44E-06	7.26	30.58
1.29E-06	1.03E-05	7.98	29.18
1.28E-06	1.12E-05	8.71	28.09
1.27E-06	1.20E-05	9.45	26.31
1.27E-06	1.28E-05	10.11	24.88
1.26E-06	1.37E-05	10.85	24.55
1.25E-06	1.45E-05	11.60	23.45
1.24E-06	1.53E-05	12.35	22.75
1.23E-06	1.61E-05	13.12	21.77
1.22E-06	1.70E-05	13.89	21.16
1.21E-06	1.78E-05	14.67	21.00
1.20E-06	1.85E-05	15.45	19.43
1.20E-06	1.93E-05	16.11	19.73
1.19E-06	2.01E-05	16.90	18.97
1.18E-06	2.09E-05	17.70	18.47
1.17E-06	2.17E-05	18.51	18.01
1.16E-06	2.24E-05	19.33	17.92
1.15E-06	2.32E-05	20.16	16.41
1.15E-06	2.39E-05	20.81	15.98
1.14E-06	2.47E-05	21.64	16.42


Time (min)
0 20 40 60 80 100 120 140 160
µcal/sec
1.0 0.8 0.6 0.4 0.2 0.0
kcal/mole of injectant
40 35 30 25 20 15 10
0 5 10 15 20 25
Molar Ratio

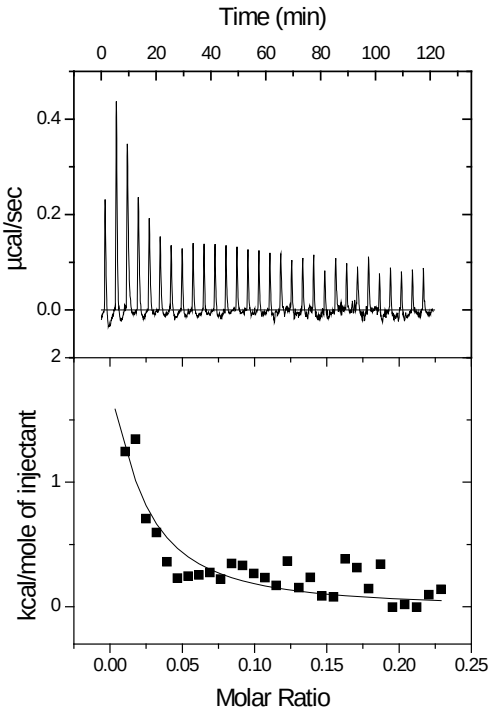

Time (min)
-20 0 20 40 60 80 100 120 140 160
µcal/sec
1.0 0.8 0.6 0.4 0.2 0.0
kcal/mole of injectant
1.6 1.4 1.2 1.0 0.8 0.6 0.4
0 100 200 300 400 500 600
Molar Ratio

11. T20 vs. Hemoglobin

N = 1E−04 ± 38% K = 2.02E4 ± 79% M^{-1}
ΔH = 846 ± 37% kcal M^{-1} ΔS = 2.86 kcal M^{-1} K^{-1}

Table S11: ITC titration data between T20 and Hemoglobin in buffer.

C_{Hemo} [M]	C_{T20} [M]	Ratio C_{T20}/C_{Hemo}	Heat exchange [µcal]
9.90E-04	1.05E-05	0.01	12.46
9.83E-04	1.74E-05	0.02	13.46
9.76E-04	2.43E-05	0.02	7.07
9.69E-04	3.12E-05	0.03	5.95
9.62E-04	3.80E-05	0.04	3.61
9.55E-04	4.47E-05	0.05	2.29
9.49E-04	5.14E-05	0.05	2.44
9.42E-04	5.80E-05	0.06	2.54
9.35E-04	6.46E-05	0.07	2.74
9.29E-04	7.12E-05	0.08	2.21
9.22E-04	7.77E-05	0.08	3.47
9.16E-04	8.41E-05	0.09	3.30
9.09E-04	9.05E-05	0.10	2.66
9.03E-04	9.68E-05	0.11	2.34
8.97E-04	1.03E-04	0.12	1.70
8.90E-04	1.09E-04	0.12	3.66
8.84E-04	1.16E-04	0.13	1.52
8.78E-04	1.22E-04	0.14	2.35
8.72E-04	1.28E-04	0.15	0.86
8.65E-04	1.34E-04	0.15	0.79
8.59E-04	1.40E-04	0.16	3.83
8.53E-04	1.46E-04	0.17	3.13
8.47E-04	1.52E-04	0.18	1.45
8.41E-04	1.58E-04	0.19	3.41
8.35E-04	1.63E-04	0.20	-0.05
8.29E-04	1.69E-04	0.20	0.18
8.24E-04	1.75E-04	0.21	-0.03
8.18E-04	1.80E-04	0.22	0.96
8.12E-04	1.86E-04	0.23	1.39


Time (min)
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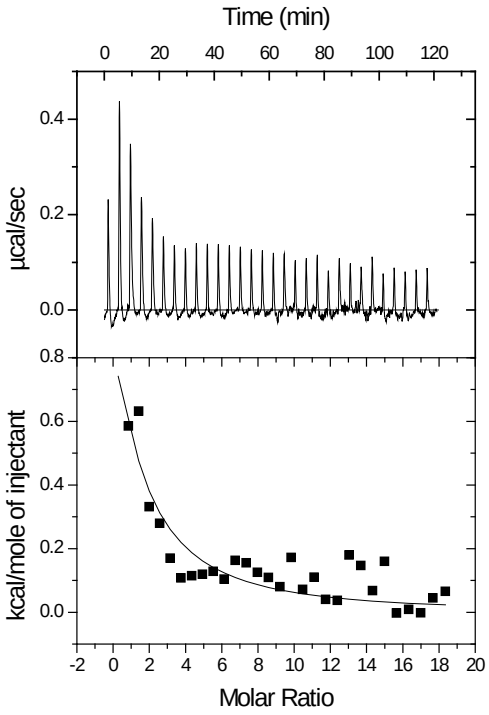
µcal/sec
0.4
0.2
0.0
2
kcal/mole of injectant
1
0
0.00 0.05 0.10 0.15 0.20 0.25
Molar Ratio


Time (min)
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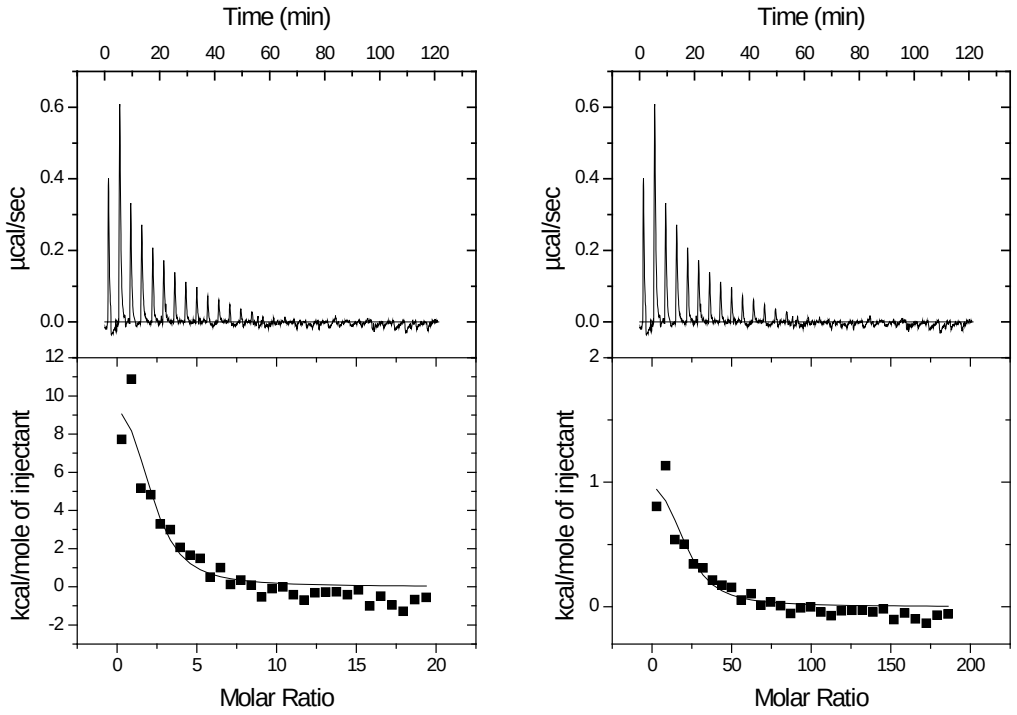
µcal/sec
0.4
0.2
0.0
0.8
kcal/mole of injectant
0.6
0.4
0.2
0.0
-2 0 2 4 6 8 10 12 14 16 18 20
Molar Ratio

12. B20 vs Hemoglobin

N = 2.06 ± 16% K = 6.88E5 ± 60% M^{-1}
ΔH = 11.8 ± 21% kcal M^{-1} ΔS = 0.066 kcal M^{-1} K^{-1}

Table S12: ITC titration data between B20 and Hemoglobin in buffer.

C_{Hemo} [M]	C_{B20} [M]	Ratio C_{B20}/C_{Hemo}	Heat exchange [µcal]
1.39E-06	1.39E-06	1.00	47.96
1.38E-06	2.31E-06	1.67	47.54
1.37E-06	3.23E-06	2.36	46.27
1.36E-06	4.13E-06	3.04	43.37
1.35E-06	5.03E-06	3.73	40.62
1.34E-06	5.93E-06	4.43	37.74
1.33E-06	6.81E-06	5.12	35.69
1.32E-06	7.69E-06	5.83	33.88
1.31E-06	8.57E-06	6.54	31.76
1.30E-06	9.44E-06	7.26	30.58
1.29E-06	1.03E-05	7.98	29.18
1.28E-06	1.12E-05	8.71	28.09
1.27E-06	1.20E-05	9.45	26.31
1.27E-06	1.28E-05	10.11	24.88
1.26E-06	1.37E-05	10.85	24.55
1.25E-06	1.45E-05	11.60	23.45
1.24E-06	1.53E-05	12.35	22.75
1.23E-06	1.61E-05	13.12	21.77
1.22E-06	1.70E-05	13.89	21.16
1.21E-06	1.78E-05	14.67	21.00
1.20E-06	1.85E-05	15.45	19.43
1.20E-06	1.93E-05	16.11	19.73
1.19E-06	2.01E-05	16.90	18.97
1.18E-06	2.09E-05	17.70	18.47
1.17E-06	2.17E-05	18.51	18.01
1.16E-06	2.24E-05	19.33	17.92
1.15E-06	2.32E-05	20.16	16.41
1.15E-06	2.39E-05	20.81	15.98
1.14E-06	2.47E-05	21.64	16.42



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