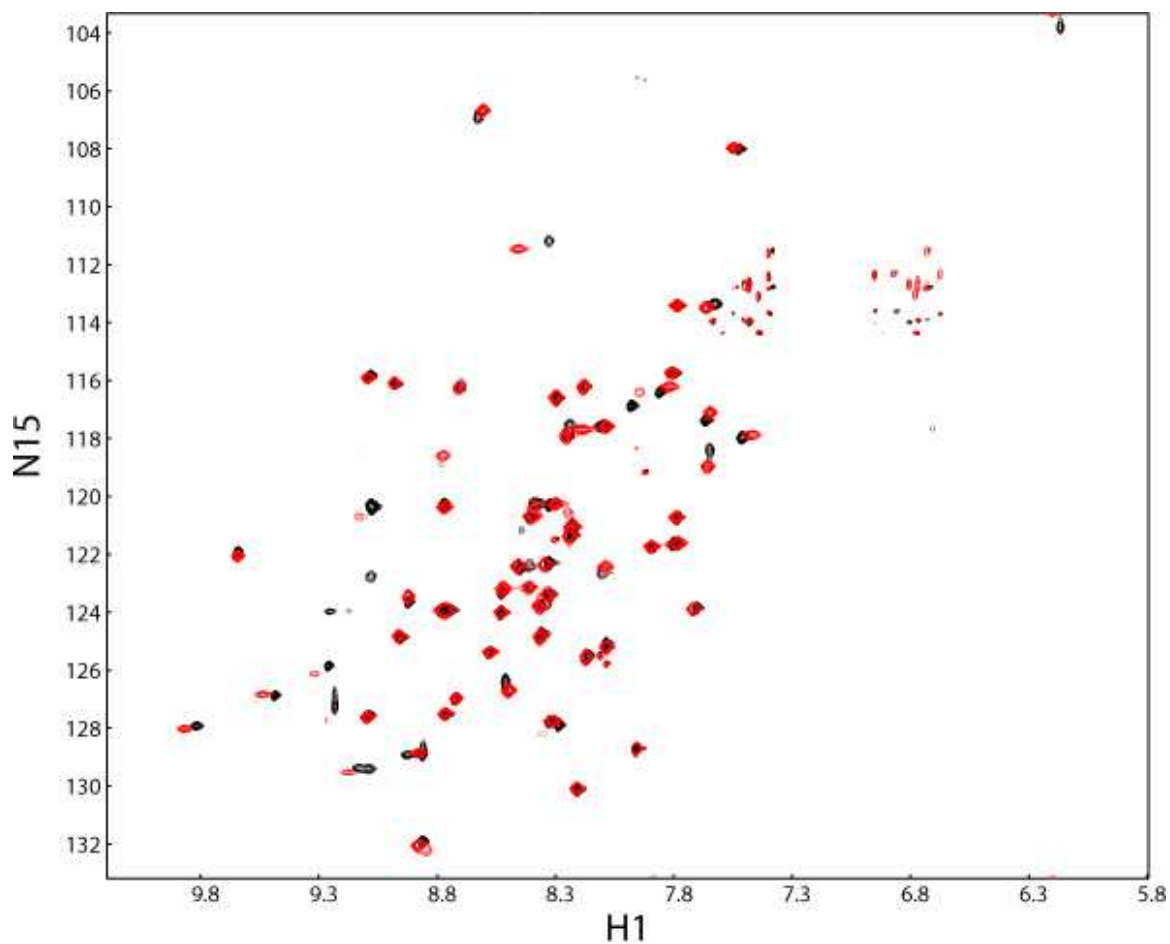
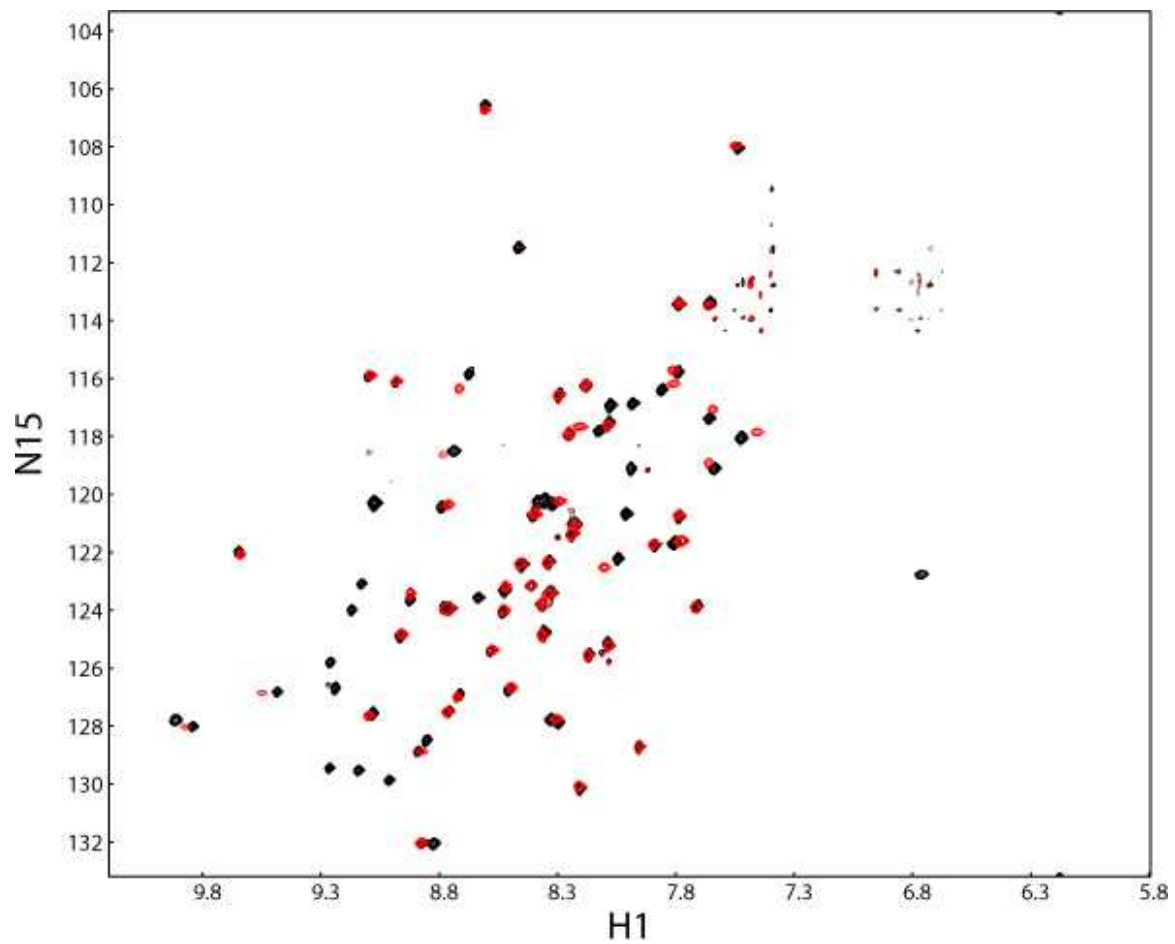


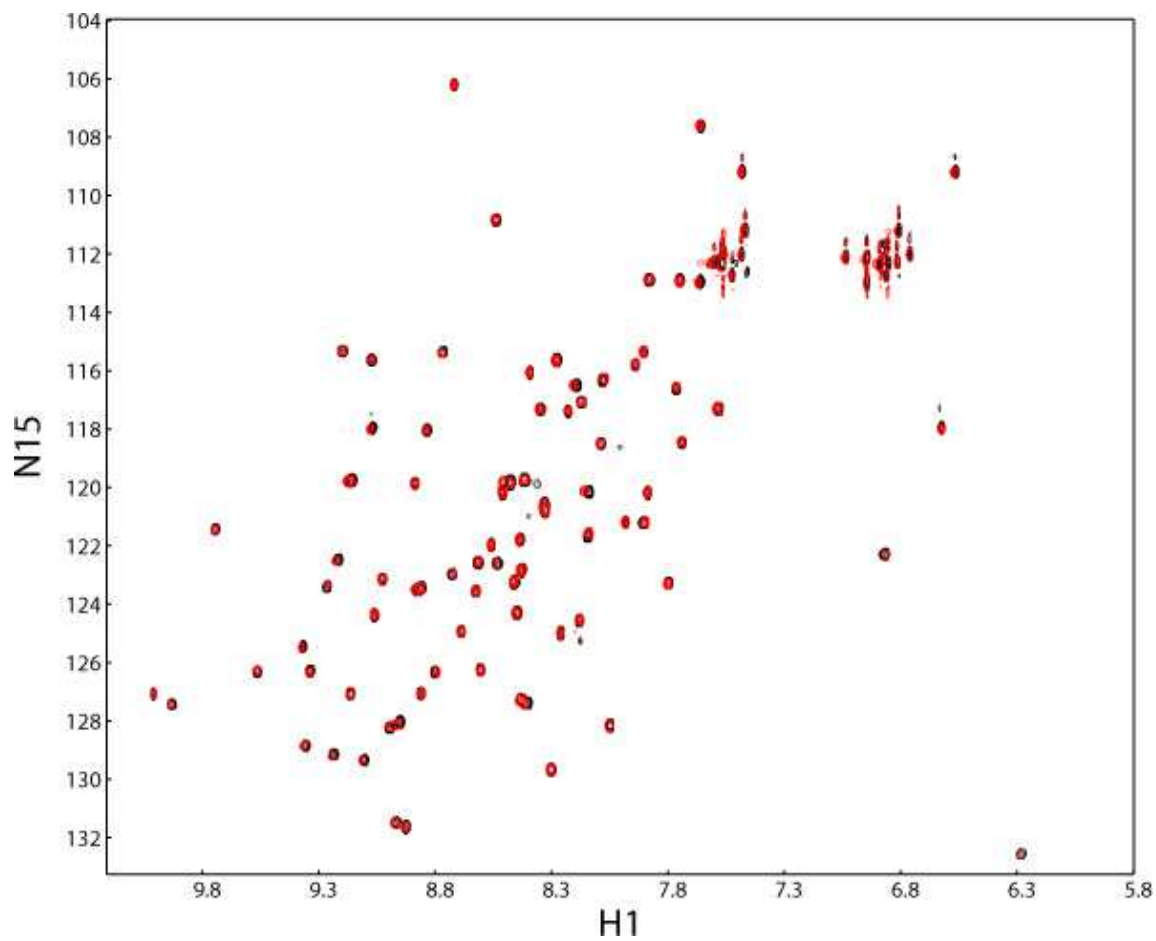
Supporting Online Material



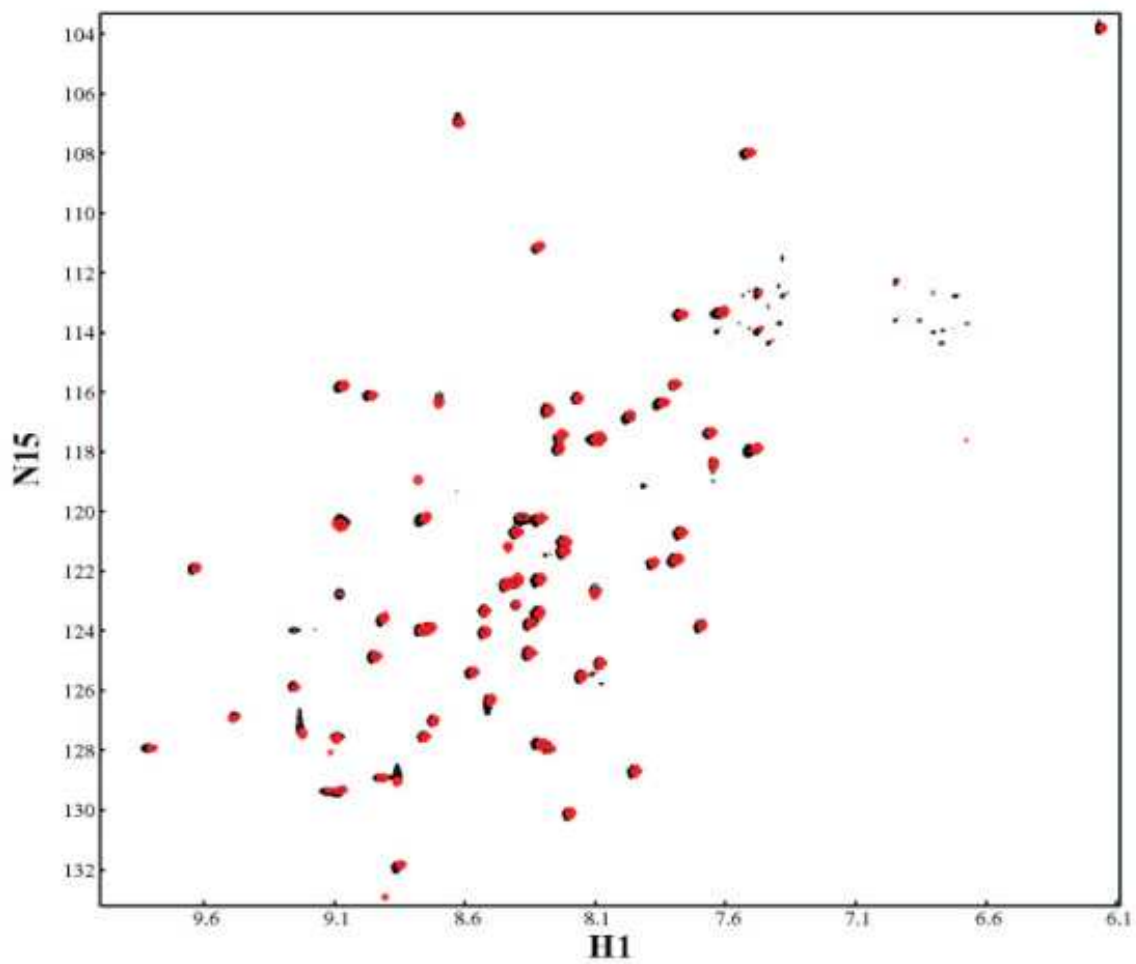
**Supplementary Figure 1a:** Overlay of NMR  $^1\text{H}$ - $^{15}\text{N}$  correlation (HSQC) spectra of Ag(I)- $^{15}\text{N}$ -CusF (black) and Ag(I)- $^{15}\text{N}$ -CusF mixed 1:1 with unlabeled apo-CusB (red).



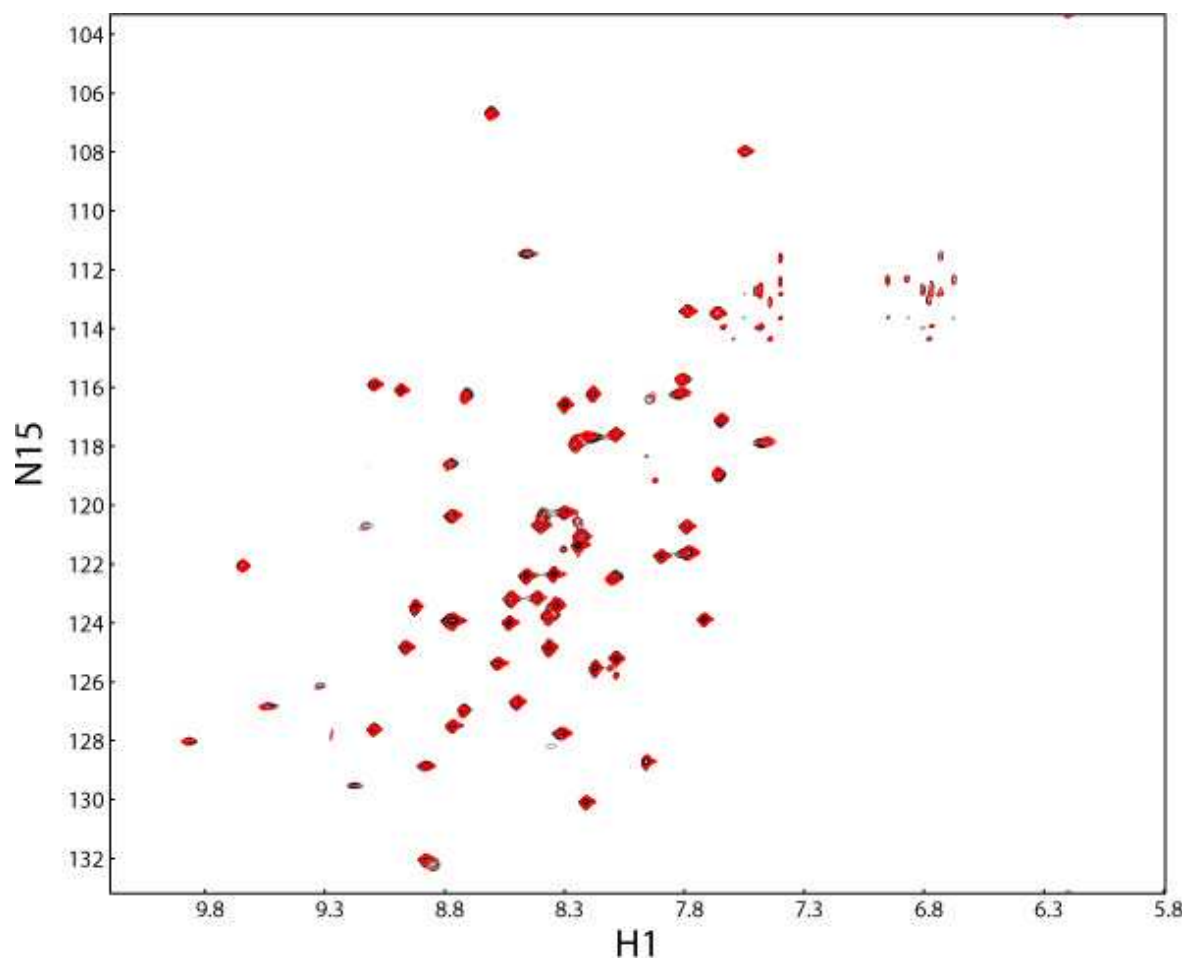
**Supplementary Figure 1b:** Overlay of NMR  $^1\text{H}$ - $^{15}\text{N}$  correlation (HSQC) spectra of apo- $^{15}\text{N}$ -CusF (black) and apo- $^{15}\text{N}$ -CusF mixed 1:1 with unlabeled Ag(I)-CusB (red).



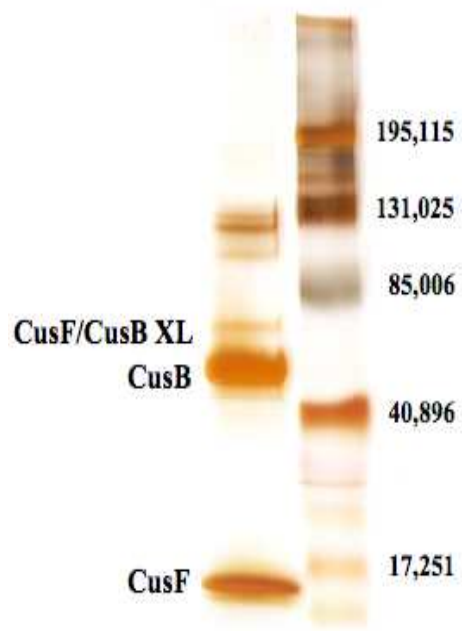
**Supplementary Figure 1c:** Overlay of NMR  $^1\text{H}$ - $^{15}\text{N}$  correlation (HSQC) spectra of apo- $^{15}\text{N}$ -CusF (black) and apo- $^{15}\text{N}$ -CusF mixed 1:1 with unlabeled apo-CusB (red).



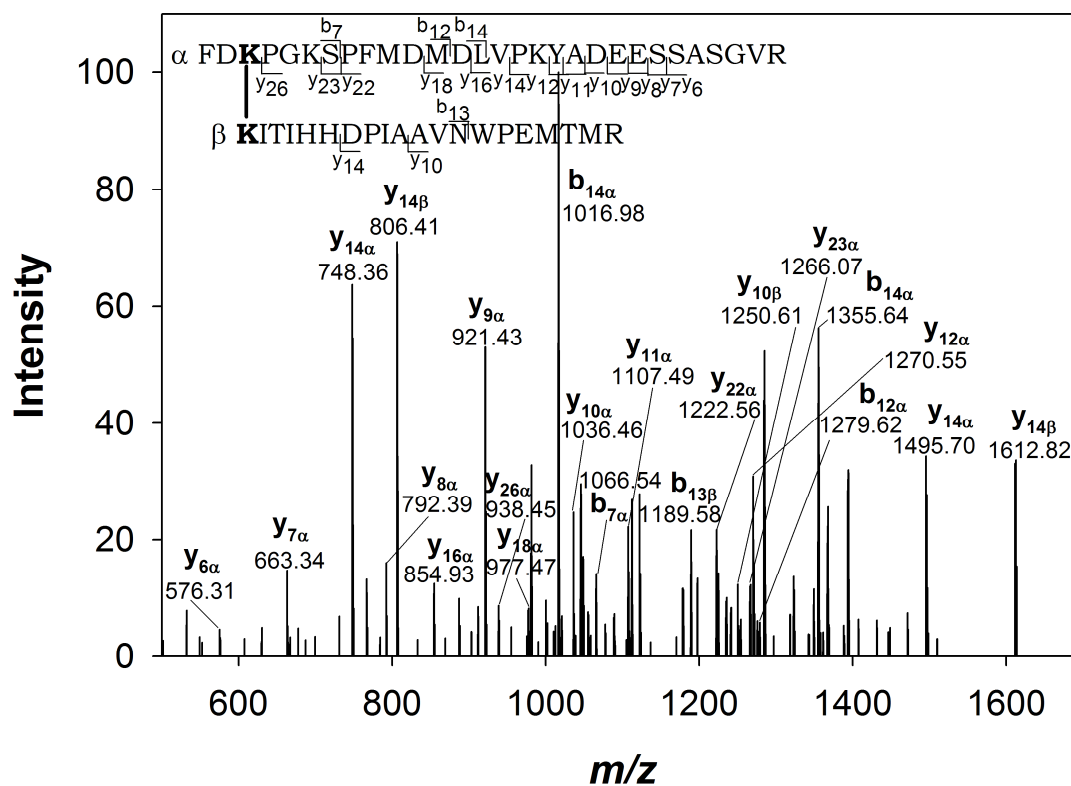
**Supplementary Figure 1d:** Overlay of NMR  $^1\text{H}$ - $^{15}\text{N}$  correlation (HSQC) spectra of Ag(I)- $^2\text{H}/^{15}\text{N}/^{13}\text{C}$ -CusF (black) and Ag(I)- $^2\text{H}/^{15}\text{N}/^{13}\text{C}$ -CusF mixed 1:1 with unlabeled Ag(I)-CusB (red).



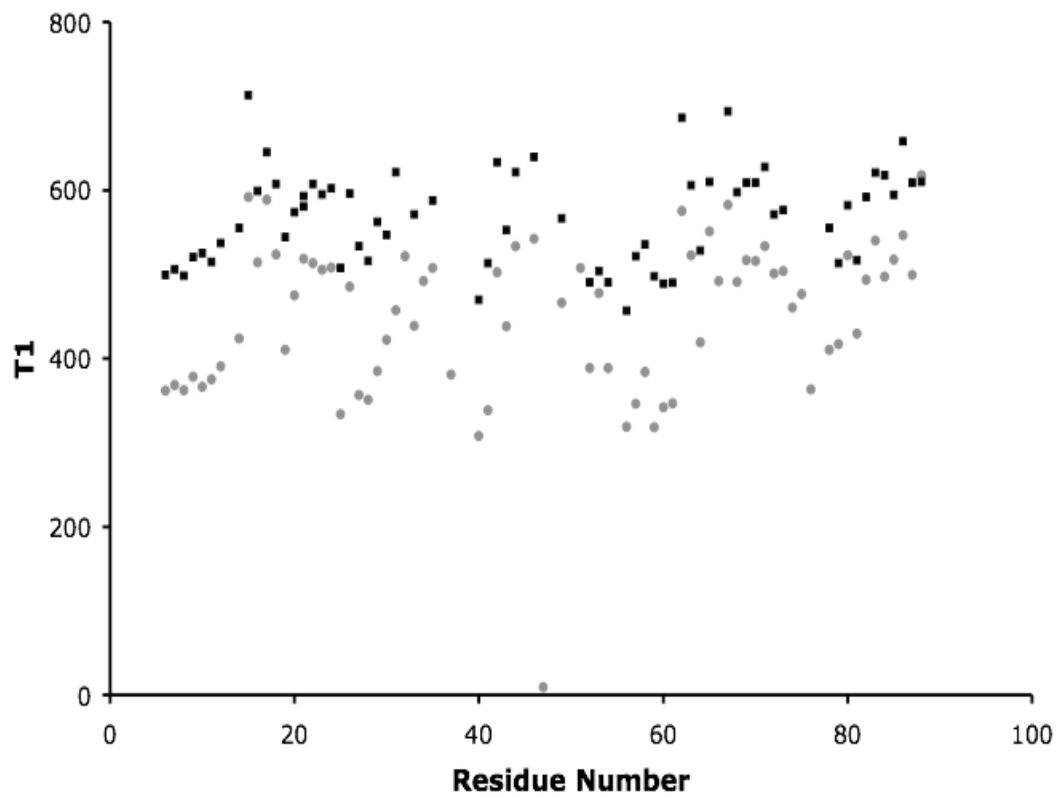
**Supplementary Figure 1e:** Overlay of NMR  $^1\text{H}$ - $^{15}\text{N}$  correlation (HSQC) spectra of apo- $^2\text{H}/^{15}\text{N}/^{13}\text{C}$ -CusF mixed 1:1 with unlabeled Ag(I)-CusB (black) and Ag(I)- $^2\text{H}/^{15}\text{N}/^{13}\text{C}$ -CusF mixed 1:1 with unlabeled apo-CusB (red).



**Supplementary Figure 2:** Silver-stained SDS-PAGE gel of cross-linking experiment shows bands for CusF, CusB and CusF/CusB cross-linked (XL) product. The higher molecular weight band was not analyzed, but is likely to be CusB/CusB cross-linked product.



**Supplementary Figure 3:** Tandem MS spectrum of cross-linked product with precursor ion  $m/z$  1135.55. The cross-link includes CusF<sub>31-50</sub> with cross-link at K31 and CusB<sub>27-55</sub> with cross-link at K29. Fragment ions are labeled in the spectrum and fragmentation is displayed within the peptide sequence.



**Supplementary Figure 4:** Plot of CusF residue number and corresponding  $T_1$  value for Ag(I)-<sup>15</sup>N-CusF (gray circles) and <sup>15</sup>N-CusF/CusB/Ag(I) (black squares).



**Supplementary Online Table 1: Resonance assignments determined from analysis of HNCA spectra for Ag(I)-<sup>2</sup>H/<sup>15</sup>N/<sup>13</sup>C-CusF mixed 1:1 with unlabeled apo-CusB.**

<u>Residue</u>	<u><math>\delta_{\text{NH}}</math></u>	<u><math>\delta_{\text{N}}</math></u>	<u><math>\delta_{\text{C}\alpha^i}</math></u>
6E	8.49275	122.5018	56.47457
7T	8.26277	115.4705	61.74765
8M	8.4478	122.9705	55.5168
9S	8.33686	116.8767	58.36967
10E	8.41608	122.5018	56.27221
11A	8.25474	124.3768	52.46899
12Q	8.32442	120.6268	53.44429
13P			62.588
14Q	8.42738	121.0955	55.27034
15V	8.16498	124.3768	62.07455
16I	8.96183	131.4081	59.79852
17S	7.86479	120.6268	56.7041
18A	8.5789	125.7831	51.26845
19T	8.53867	110.7829	59.5325
20G	8.6903	105.6266	46.63033
21V	8.3804	119.2205	59.81185
22V	8.84888	126.7206	63.88682
23K	9.26281	128.5956	54.39915
24G	7.63005	107.0329	45.89091
25I	8.60224	122.5018	61.59469
26D	8.39431	126.7206	52.19548
27L	9.04383	123.9081	57.01584
28E	8.48357	119.6893	59.0323
29S	7.74482	112.6579	58.25966
30K	7.72931	116.408	56.86069
31K	8.019	115.4705	53.605
32I		<b>B</b>	
33T	9.17771	126.7206	62.55053
34I	9.34	127.6581	59.977
35H	8.95728	128.1269	54.76841
36H		<b>B</b>	
37D	8.328	119.6893	55.983
38P		<b>NA</b>	
39I			59.73818
40A	8.92561	131.4081	55.36799
41A	8.85796	117.8142	55.26718
42V	6.28276	132.8144	59.02288
43N	7.73773	118.283	54.55283
44W	7.96928	115.0017	51.96832
45P			
46E	8.27178	116.8767	56.69308
47M		<b>B</b>	
48T	8.26277	115.4705	62.239

49M	8.80321	126.2518	53.69383
50R		B	
51F		B	
52T	9.181	119.2205	63.565
53I	8.454	127.1893	61.133
54T	9.21194	119.6893	59.36871
55P			64.31309
56Q	7.86762	112.6579	55.86752
57T	7.87334	119.6893	64.21452
58K	8.29194	129.0644	55.50365
59M	8.44682	123.9081	54.46067
60S	7.55086	117.3455	57.50151
61E	8.30971	120.158	57.44827
62I	7.79808	122.9705	59.05087
63K	9.00488	122.5018	54.12352
64T	8.37837	115.9392	64.96511
65G	9.06618	115.0017	43.80994
66D	7.97819	121.0955	55.59249
67K	8.6106	122.9705	55.75205
68V	9.17466	115.0017	58.52899
69A	8.85898	122.9705	51.08045
70F	8.85177	119.6893	55.50198
71N	8.16751	116.8767	51.75296
72F	9.72575	121.0955	55.98593
73V	8.7866	115.4705	59.41405
74Q		B	
75Q		B	
76G		NA	
77N		NA	
78L	8.1728	121.5643	54.32381
79S	8.48498	119.6893	57.59637
80L	9.61768	125.7831	54.36187
81L	9.3951	125.3143	55.97789
82Q	9.94899	127.1893	56.79122
83D	7.88993	115.0017	53.45918
84I	7.9026	115.4705	60.52825
85K	8.65974	124.3768	54.55943
86V	8.5393	121.5643	63.07316
87S	8.84282	122.9705	57.39588
88Q	8.04068	128.1269	55.95192

NA: Not assigned

B: Broadened beyond detection