

Supplementary material for Low Temperature ^{65}Cu NMR Spectroscopy of the Cu^+ Site in Azurin, by Andrew S. Lipton, Robert W. Heck, Wibe A. de Jong, Amy R. Gao, Xiongjian Wu, Adrienne Roehrich, Gerard S. Harbison and Paul D. Ellis

Reference 43 complete citation

Frisch, M. J.; Trucks, G. W.; Schlegel, H. B.; Scuseria, G. E.; Robb, M. A.; Cheeseman, J. R.; Montgomery, Jr., J. A.; Vreven, T.; Kudin, K. N.; Burant, J. C.; Millam, J. M.; Iyengar, S. S.; Tomasi, J.; Barone, V.; Mennucci, B.; Cossi, M.; Scalmani, G.; Rega, N.; Petersson, G. A.; Nakatsuji, H.; Hada, M.; Ehara, M.; Toyota, K.; Fukuda, R.; Hasegawa, J.; Ishida, M.; Nakajima, T.; Honda, Y.; Kitao, O.; Nakai, H.; Klene, M.; Li, X.; Knox, J. E.; Hratchian, H. P.; Cross, J. B.; Bakken, V.; Adamo, C.; Jaramillo, J.; Gomperts, R.; Stratmann, R. E.; Yazyev, O.; Austin, A. J.; Cammi, R.; Pomelli, C.; Ochterski, J. W.; Ayala, P. Y.; Morokuma, K.; Voth, G. A.; Salvador, P.; Dannenberg, J. J.; Zakrzewski, V. G.; Dapprich, S.; Daniels, A. D.; Strain, M. C.; Farkas, O.; Malick, D. K.; Rabuck, A. D.; Raghavachari, K.; Foresman, J. B.; Ortiz, J. V.; Cui, Q.; Baboul, A. G.; Clifford, S.; Cioslowski, J.; Stefanov, B. B.; Liu, G.; Liashenko, A.; Piskorz, P.; Komaromi, I.; Martin, R. L.; Fox, D. J.; Keith, T.; Al-Laham, M. A.; Peng, C. Y.; Nanayakkara, A.; Challacombe, M.; Gill, P. M. W.; Johnson, B.; Chen, W.; Wong, M. W.; Gonzalez, C.; and Pople, J. A.; Gaussian, Inc., Wallingford CT, 2004.

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Table 5: optimized coordinates of bis(imidazole) copper(I)methylsulfide

Cu	29.0	-0.1689029072	-0.5489970740	0.0000000000
H	1.0	-2.4915940951	-0.3844348329	-4.4682044451
H	1.0	-2.4915940951	-0.3844348329	4.4682044451
S	16.0	2.1258474413	-0.3813476530	0.0000000000
C	6.0	2.1464422778	1.4662955721	0.0000000000
H	1.0	3.1870522527	1.8270963879	0.0000000000
H	1.0	1.6436886554	1.8772710890	-0.8927627025
H	1.0	1.6436886554	1.8772710890	0.8927627025
N	7.0	-0.7045513895	-0.5077213523	-1.8287079781
N	7.0	-0.7045513895	-0.5077213523	1.8287079781
C	6.0	-1.9008252771	-0.5035030861	-2.4342152615
C	6.0	-1.9008252771	-0.5035030861	2.4342152615
C	6.0	0.2479689360	-0.4043287280	-2.8323071646
C	6.0	0.2479689360	-0.4043287280	2.8323071646
N	7.0	-1.7417059886	-0.4043872393	-3.7866021700
N	7.0	-1.7417059886	-0.4043872393	3.7866021700
C	6.0	-0.3885846422	-0.3408547007	-4.0625534917
C	6.0	-0.3885846422	-0.3408547007	4.0625534917
H	1.0	-0.0074032073	-0.2581965349	-5.0756380723
H	1.0	-0.0074032073	-0.2581965349	5.0756380723
H	1.0	1.3050156411	-0.3957464050	-2.5659833648
H	1.0	1.3050156411	-0.3957464050	2.5659833648
H	1.0	-2.8672281644	-0.5696218264	-1.9452355108
H	1.0	-2.8672281644	-0.5696218264	1.9452355108

Table 6: optimized coordinates of the quantum region of azurin, in pdb notation.

ATOM	1	C	3.007	-6.959	-10.675	6.00
ATOM	2	O	2.722	-5.790	-10.927	8.00
ATOM	3	N	3.418	-7.815	-11.647	7.00
ATOM	4	H	3.627	-8.809	-11.432	1.00
ATOM	5	C	3.488	-7.353	-12.996	6.00
ATOM	6	H	3.889	-6.326	-13.036	1.00
ATOM	7	C	6.392	-0.911	-11.588	6.00
ATOM	8	O	6.385	-1.776	-10.714	8.00
ATOM	9	N	6.729	0.366	-11.324	7.00
ATOM	10	H	6.636	1.106	-12.036	1.00
ATOM	11	C	6.967	0.716	-9.963	6.00
ATOM	12	H	7.362	1.753	-9.921	1.00
ATOM	13	H	7.710	0.020	-9.517	1.00
ATOM	14	C	5.678	0.645	-9.169	6.00
ATOM	15	O	4.629	1.090	-9.644	8.00
ATOM	16	N	5.801	0.117	-7.945	7.00
ATOM	17	H	6.703	-0.302	-7.644	1.00
ATOM	18	C	4.704	0.122	-7.034	6.00
ATOM	19	H	3.890	0.750	-7.482	1.00
ATOM	20	C	4.114	-1.262	-6.769	6.00
ATOM	21	H	3.261	-1.103	-6.064	1.00
ATOM	22	H	4.863	-1.890	-6.237	1.00
ATOM	23	C	3.640	-1.950	-7.993	6.00
ATOM	24	N	2.848	-1.322	-8.925	7.00
ATOM	25	C	2.562	-2.232	-9.847	6.00
ATOM	26	H	1.940	-2.049	-10.735	1.00
ATOM	27	N	3.125	-3.419	-9.550	7.00
ATOM	28	H	2.999	-4.316	-10.084	1.00
ATOM	29	C	3.822	-3.261	-8.383	6.00
ATOM	30	H	4.413	-4.071	-7.932	1.00
ATOM	31	C	5.147	0.687	-5.712	6.00
ATOM	32	O	6.198	0.311	-5.188	8.00
ATOM	33	N	4.287	1.545	-5.145	7.00
ATOM	34	H	3.446	1.881	-5.691	1.00
ATOM	35	C	4.459	1.904	-3.783	6.00
ATOM	36	H	5.275	1.269	-3.371	1.00
ATOM	37	C	0.355	1.740	-6.479	6.00
ATOM	38	H	-0.477	1.473	-7.169	1.00
ATOM	39	H	0.550	0.881	-5.803	1.00
ATOM	40	S	1.865	2.131	-7.434	16.00
ATOM	41	C	1.592	6.304	-8.524	6.00
ATOM	42	O	1.796	7.324	-9.180	8.00
ATOM	43	N	2.025	5.091	-8.945	7.00
ATOM	44	H	1.839	4.196	-8.398	1.00

ATOM	45	C	2.726	5.024	-10.172	6.00
ATOM	46	H	3.475	5.842	-10.201	1.00
ATOM	47	C	3.337	3.653	-10.366	6.00
ATOM	48	H	2.554	2.862	-10.267	1.00
ATOM	49	H	3.997	3.477	-9.488	1.00
ATOM	50	C	4.122	3.459	-11.623	6.00
ATOM	51	C	3.475	3.238	-12.847	6.00
ATOM	52	H	2.371	3.165	-12.868	1.00
ATOM	53	C	4.200	3.134	-14.032	6.00
ATOM	54	H	3.660	3.045	-14.995	1.00
ATOM	55	C	5.592	3.208	-14.021	6.00
ATOM	56	H	6.161	3.145	-14.965	1.00
ATOM	57	C	6.254	3.397	-12.805	6.00
ATOM	58	H	7.353	3.479	-12.779	1.00
ATOM	59	C	5.521	3.527	-11.624	6.00
ATOM	60	H	6.042	3.696	-10.665	1.00
ATOM	61	C	-0.590	1.846	-10.605	6.00
ATOM	62	H	-0.785	1.077	-9.816	1.00
ATOM	63	H	-0.285	2.758	-10.044	1.00
ATOM	64	C	0.534	1.333	-11.437	6.00
ATOM	65	N	1.662	0.822	-10.841	7.00
ATOM	66	C	2.480	0.438	-11.811	6.00
ATOM	67	H	3.501	0.060	-11.638	1.00
ATOM	68	N	1.921	0.649	-13.017	7.00
ATOM	69	H	2.380	0.505	-13.955	1.00
ATOM	70	C	0.701	1.232	-12.809	6.00
ATOM	71	H	0.048	1.533	-13.640	1.00
ATOM	72	C	-2.609	-0.343	-7.728	6.00
ATOM	73	H	-2.016	-0.346	-6.786	1.00
ATOM	74	H	-2.558	0.696	-8.117	1.00
ATOM	75	C	-2.011	-1.327	-8.705	6.00
ATOM	76	H	-2.403	-1.197	-9.736	1.00
ATOM	77	H	-2.231	-2.383	-8.425	1.00
ATOM	78	S	-0.209	-1.182	-8.841	16.00
ATOM	79	C	0.209	-1.830	-7.217	6.00
ATOM	80	H	1.307	-1.991	-7.202	1.00
ATOM	81	H	-0.314	-2.796	-7.034	1.00
ATOM	82	H	-0.048	-1.115	-6.406	1.00
ATOM	83	Cu	2.110	0.510	-8.934	29.00
ATOM	84	H	3.903	0.145	-15.548	1.00
ATOM	85	O	2.968	0.472	-15.521	8.00
ATOM	86	H	3.061	1.430	-15.704	1.00
ATOM	87	H_L	2.948	-7.361	-9.645	1.00
ATOM	88	H_L	4.078	-8.015	-13.634	1.00
ATOM	89	H_L	2.409	-7.295	-13.476	1.00
ATOM	90	H_L	6.152	-1.131	-12.634	1.00

ATOM	91	H_L	4.709	2.925	-3.637	1.00
ATOM	92	H_L	3.468	1.611	-3.200	1.00
ATOM	93	H_L	0.046	2.593	-5.850	1.00
ATOM	94	H_L	1.030	6.344	-7.587	1.00
ATOM	95	H_L	1.963	5.265	-11.068	1.00
ATOM	96	H_L	-1.496	2.043	-11.173	1.00
ATOM	97	H_L	-3.646	-0.593	-7.492	1.00