

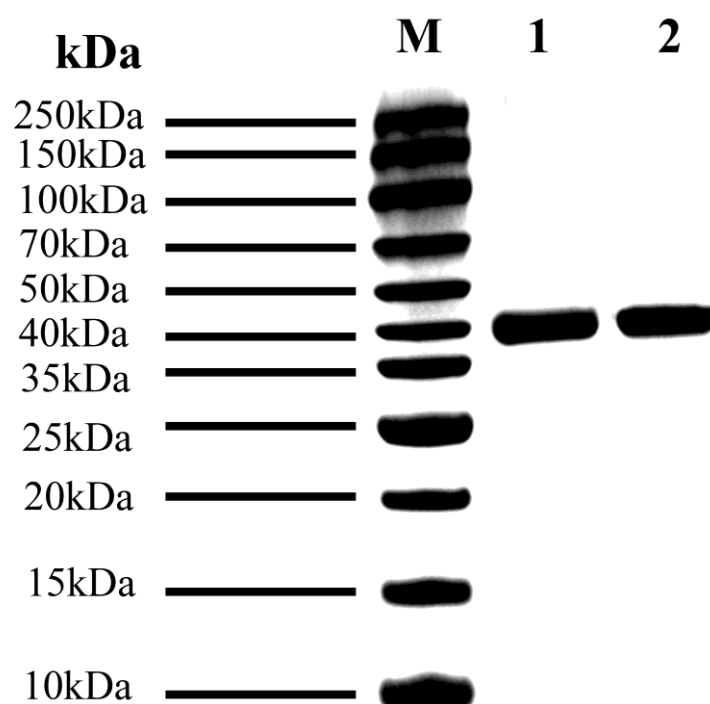


Figure S1. SDS-PAGE assay of the purified enzymes. Line 1, Deba-Mlase; Line 2, Caji-Mlase; Line M, protein marker.

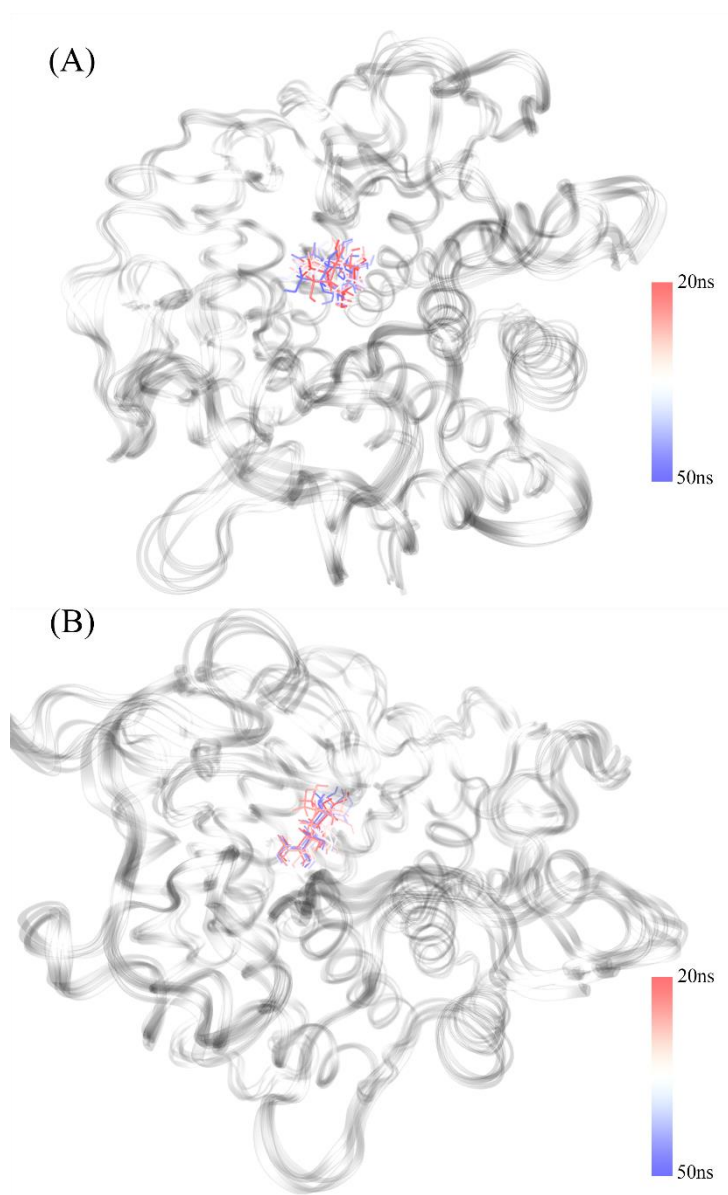


Figure S2. The overlapped structures of Mlase with the D-mannose in closed-ring form (A) and the ene-diol intermediate (B) extracted from frames of MD simulation trajectory from 20 ns (Red) to 50 ns (Blue).

Table S1. The decomposition energies for each residue (defined by complex - receptor - ligand). Internal energy contains potential terms consisting of bond, angle, dihedral, and 1-4 interactions

Residue	Internal			van der Waals			Electrostatic			Polar Solvation			Non-Polar Solv.			TOTAL		
	Avg.	Std.	Std. Err.	Avg.	Std. Dev.	Std. Err.	Avg.	Std. Dev.	Std. Err.	Avg.	Std. Dev.	Std. Err.	Avg.	Std.	Std. E	Avg.	Std. Dev.	Std. Err. of Mean
ASP 1	0	0	0	#####	0.000279	1.97E-05	-0.0153	0.0122	0.0009	0.016	0.012178	0.000861	0	0	0	0.00054	0.000692	4.89E-05
PHE 2	0	0	0	-3E-04	0.000439	3.10E-05	-0.0032	0.0038	0.0003	0.004	0.003626	0.000256	0	0	0	0.00078	0.000855	6.05E-05
ARG 3	0	0	0	-2E-04	0.000371	2.62E-05	0.17892	0.0436	0.0031	-0.18	0.043314	0.003063	0	0	0	0.000605	0.000767	5.43E-05
SER 4	0	0	0	#####	0.000237	1.68E-05	0.0008	0.0037	0.0003	-0	0.00377	0.000267	0	0	0	-1.50E-05	0.000628	4.44E-05
ARG 5	0	0	0	-2E-04	0.000367	2.59E-05	0.06582	0.0401	0.0028	-0.06	0.039782	0.002813	0	0	0	0.000705	0.000823	5.82E-05
ALA 6	0	0	0	#####	0.000263	1.86E-05	0.00707	0.0023	0.0002	-0.01	0.002255	0.000159	0	0	0	-4.00E-05	0.000631	4.46E-05
PHE 7	0	0	0	-3E-04	0.00046	3.26E-05	0.01249	0.0032	0.0002	-0.01	0.003298	0.000233	0	0	0	0.001225	0.000821	5.81E-05
LEU 8	0	0	0	-4E-04	0.000485	3.43E-05	0.01634	0.0046	0.0003	-0.02	0.00461	0.000326	0	0	0	0.000365	0.001054	7.46E-05
LEU 9	0	0	0	-2E-04	0.000414	2.93E-05	0.01287	0.0038	0.0003	-0.01	0.003728	0.000264	0	0	0	-0.0004	0.000787	5.57E-05
ASP 10	0	0	0	-2E-04	0.000407	2.88E-05	0.04562	0.0491	0.0035	-0.05	0.048894	0.003457	0	0	0	-0.000395	0.000754	5.33E-05
HIE 11	0	0	0	-0.001	0.00048	3.39E-05	-0.0043	0.014	0.001	0.008	0.014059	0.000994	0	0	0	0.002215	0.002066	0.000146
ILE 12	0	0	0	-8E-04	0.000421	2.98E-05	0.02216	0.0052	0.0004	-0.02	0.005134	0.000363	0	0	0	0.000185	0.00097	6.86E-05
ARG 13	0	0	0	-3E-04	0.000472	3.34E-05	-0.0462	0.0453	0.0032	0.047	0.044969	0.00318	0	0	0	0.000275	0.000916	6.48E-05
ALA 14	0	0	0	-3E-04	0.000466	3.30E-05	0.01299	0.004	0.0003	-0.01	0.004206	0.000297	0	0	0	0.00037	0.001101	7.79E-05
THR 15	0	0	0	-0.001	0.000499	3.53E-05	0.01845	0.0092	0.0006	-0.02	0.010147	0.000717	0	0	0	-0.000495	0.003431	0.000243
MET 16	0	0	0	-8E-04	0.00043	3.04E-05	0.0325	0.0084	0.0006	-0.03	0.008181	0.000578	0	0	0	0.00144	0.001529	0.000108
ALA 17	0	0	0	-2E-04	0.000396	2.80E-05	0.00314	0.0034	0.0002	-0	0.003375	0.000239	0	0	0	0.0008	0.000755	5.34E-05
PHE 18	0	0	0	-0.001	0.000339	2.40E-05	-0.0123	0.0056	0.0004	0.013	0.005691	0.000402	0	0	0	-0.0001	0.000872	6.16E-05
TYR 19	0	0	0	-0.003	0.000649	4.59E-05	0.00179	0.0141	0.001	-0	0.014296	0.001011	0	0	0	-0.004475	0.002846	0.000201
HIE 20	0	0	0	-3E-04	0.000451	3.19E-05	0.0156	0.0053	0.0004	-0.01	0.005178	0.000366	0	0	0	0.00041	0.000879	6.21E-05
PRO 21	0	0	0	-2E-04	0.000357	2.52E-05	0.01077	0.0029	0.0002	-0.01	0.002874	0.000203	0	0	0	0.00025	0.000719	5.09E-05
ARG 22	0	0	0	-3E-04	0.000472	3.34E-05	-0.2294	0.0717	0.0051	0.231	0.07134	0.005044	0	0	0	0.001105	0.000935	6.61E-05
ALA 23	0	0	0	-4E-04	0.000483	3.41E-05	0.00705	0.005	0.0004	-0.01	0.004908	0.000347	0	0	0	0.00023	0.000798	5.64E-05
VAL 24	0	0	0	-2E-04	0.000418	2.95E-05	-0.0079	0.0028	0.0002	0.008	0.002796	0.000198	0	0	0	7.50E-05	0.000768	5.43E-05
ASP 25	0	0	0	-1E-04	0.000347	2.45E-05	0.30346	0.0577	0.0041	-0.3	0.057381	0.004057	0	0	0	0.00121	0.000759	5.37E-05
PRO 26	0	0	0	#####	0.000271	1.92E-05	0.00086	0.0022	0.0002	-0	0.002184	0.000154	0	0	0	-0.00031	0.000643	4.55E-05
ASP 27	0	0	0	#####	0.000286	2.02E-05	0.23733	0.0439	0.0031	-0.24	0.043678	0.003089	0	0	0	0.001315	0.000718	5.08E-05
GLY 28	0	0	0	-1E-04	0.000313	2.21E-05	0.01931	0.0043	0.0003	-0.02	0.004318	0.000305	0	0	0	0.00154	0.00072	5.09E-05
GLY 29	0	0	0	-2E-04	0.000371	2.62E-05	-0.0113	0.0039	0.0003	0.013	0.003869	0.000274	0	0	0	0.001825	0.000972	6.87E-05
PHE 30	0	0	0	-0.001	0.000324	2.29E-05	0.00085	0.0066	0.0005	-0	0.006405	0.000453	0	0	0	-0.0022	0.001356	9.59E-05
PHE 31	0	0	0	-7E-04	0.000451	3.19E-05	0.03089	0.0084	0.0006	-0.03	0.008173	0.000578	0	0	0	0.00478	0.001781	0.000126
HIE 32	0	0	0	-0.003	0.000527	3.73E-05	0.07714	0.0409	0.0029	-0.08	0.042138	0.00298	0	0	0	-0.009945	0.005182	0.000366
PHE 33	0	0	0	-0.002	0.000528	3.74E-05	-0.0026	0.0071	0.0005	0.002	0.007446	0.000527	0	0	0	-0.00265	0.001664	0.000118
PHE 34	0	0	0	-0.002	0.000388	2.74E-05	0.0007	0.0079	0.0006	-0	0.007679	0.000543	0	0	0	-0.002845	0.001694	0.00012
ARG 35	0	0	0	-5E-04	0.0005	3.53E-05	-0.1787	0.0662	0.0047	0.18	0.065939	0.004663	0	0	0	0.00064	0.000995	7.04E-05
ASP 36	0	0	0	-5E-04	0.0005	3.53E-05	0.13582	0.099	0.007	-0.13	0.098299	0.006951	0	0	0	0.001375	0.001551	0.00011
ASP 37	0	0	0	-2E-04	0.0004	2.83E-05	0.17694	0.0677	0.0048	-0.18	0.067416	0.004767	0	0	0	0.000995	0.000846	5.98E-05
GLY 38	0	0	0	-2E-04	0.000407	2.88E-05	0.00342	0.0044	0.0003	-0	0.004313	0.000305	0	0	0	0.00136	0.000781	5.52E-05
SER 39	0	0	0	-2E-04	0.000392	2.77E-05	0.01403	0.0072	0.0005	-0.01	0.007131	0.000504	0	0	0	0.00014	0.000843	5.96E-05
VAL 40	0	0	0	-3E-04	0.00047	3.32E-05	-0.0187	0.0049	0.0003	0.02	0.004829	0.000341	0	0	0	0.000545	0.000853	6.03E-05
TYR 41	0	0	0	-1E-03	0.00028	1.98E-05	-0.0053	0.0058	0.0004	0.007	0.006165	0.000436	0	0	0	0.000845	0.000995	7.04E-05
ASP 42	0	0	0	-3E-04	0.000475	3.36E-05	0.35179	0.0919	0.0065	-0.35	0.091327	0.006458	0	0	0	0.004785	0.001643	0.000116
THR 43	0	0	0	-2E-04	0.000396	2.80E-05	0.0032	0.0073	0.0005	-0	0.007143	0.000505	0	0	0	0.000715	0.000815	5.76E-05
ALA 44	0	0	0	-2E-04	0.000362	2.56E-05	0.00371	0.0041	0.0003	-0	0.004174	0.000295	0	0	0	0.00092	0.000796	5.63E-05
THR 45	0	0	0	-7E-04	0.000449	3.17E-05	0.00162	0.0059	0.0004	0.004	0.006042	0.000427	0	0	0	0.004835	0.002291	0.000162
ARG 46	0	0	0	-0.001	0.000317	2.24E-05	-0.4252	0.0822	0.0058	0.431	0.081704	0.005777	0	0	0	0.004745	0.002234	0.000158
HIE 47	0	0	0	-0.012	0.002589	0.000183	0.06787	0.043	0.003	-0.08	0.044054	0.003115	0	0	0	-0.022745	0.008634	0.00061
LEU 48	0	0	0	-0.006	0.000867	6.13E-05	0.00916	0.0169	0.0012	-0.04	0.021734	0.001537	0	0	0	-0.03748	0.014775	0.001045
VAL 49	0	0	0	-0.079	0.018959	0.001341	0.03543	0.0668	0.0047	-0.07	0.0674	0.004766	###	0	###	-0.118164	0.030058	0.002125
SER 50	0	0	0	-0.011	0.001981	0.000014	0.08615	0.0448	0.0032	-0.07	0.049598	0.003507	0	0	0	0.005335	0.010657	0.000754
SER 51	0	0	0	-0.003	0.000551	3.89E-05	-0.0078	0.0356	0.0025	0.014	0.038584	0.002728	0	0	0	0.00349	0.006018	0.000426
THR 52	0	0	0	-0.007	0.001086	7.68E-05	0.00659	0.0212	0.0015	-0.03	0.028988	0.00205	0	0	0	-0.034005	0.018996	0.001343
ARG 53	0	0	0	-0.315	0.641009	0.045326	-12.65	2.8569	0.202	8.158	1.555529	0.109992	-0.1	0	0	-4.90981	1.655083	0.117032
PHE 54	0	0	0	-0.005	0.000903	6.38E-05	-0.0086	0.0131	0.0009	0.016	0.015956	0.001128	0	0	0	0.00243	0.007177	0.000508
VAL 55	0	0	0	-0.002	0.000444	3.14E-05	-0.0523	0.0108	0.0008	0.045	0.0117	0.000827	0	0	0	-0.009425	0.006902	0.000488
PHE 56	0	0	0	-0.013	0.003849	0.000272	-0.0823	0.0312	0.0022	0.103	0.034451	0.002436	0	0	0	0.007225	0.008044	0.000569
ASN 57	0	0	0	-0.004	0.000732	5.18E-05	0.05749	0.0454	0.0032	-0.04	0.0443	0.003132	0	0	0	0.01008	0.005089	0.00036
TYR 58	0	0	0	-0.001	0.000349	2.47E-05	-0.0186	0.0046	0.0003	0.021	0.004704	0.000333	0	0	0	0.00168	0.001542	0.000109
ALA 59	0	0	0	-5E-04	0.0005	3.54E-05	-0.0349	0.0076	0.0005	0.035	0.007649	0.000541	0	0	0	-3.50E-05	0.001665	0.000118
MET 60	0	0	0	-0.002	0.001099	7.77E-05	-0.0412	0.0186	0.0013	0.043	0.017503	0.001238	0	0	0	-0.000465	0.002298	0.000162
ALA 61	0	0	0	-4E-04	0.000484	3.42E-05	-0.0243	0.005	0.0004	0.026	0.005088	0.00036	0	0	0	0.001245	0.000962	6.80E-05
ALA 62	0	0	0	-2E-04	0.000362	2.56E-05	-0.0156	0.0033	0.0002	0.017	0.003463	0.000245	0	0	0	0.0008	0.000781	5.52E-05
ARG 63																		

HIE 85	0	0	0	-1E-03	0.000324	2.29E-05	-0.0134	0.0101	0.0007	0.015	0.010775	0.000762	0	0	0	0.000165	0.00167	0.000118
ARG 86	0	0	0	-3E-04	0.000433	3.06E-05	-0.2287	0.0492	0.0035	0.229	0.049156	0.003476	0	0	0	-0.00041	0.001137	8.04E-05
ASN 87	0	0	0	-1E-04	0.000342	2.42E-05	-0.0082	0.004	0.0003	0.009	0.003981	0.000282	0	0	0	0.00032	0.000733	5.18E-05
PRO 88	0	0	0	#####	0.000271	1.92E-05	-0.0029	0.0019	0.0001	0.002	0.001913	0.000135	0	0	0	-0.000525	0.000599	4.24E-05
GLU 89	0	0	0	#####	0.000196	1.39E-05	0.13709	0.0323	0.0023	-0.14	0.032237	0.00228	0	0	0	0.00042	0.000627	4.44E-05
THR 90	0	0	0	#####	0.000293	2.07E-05	-0.0023	0.0031	0.0002	0.003	0.003025	0.000214	0	0	0	0.000385	0.000661	4.67E-05
GLY 91	0	0	0	#####	0.000271	1.92E-05	0.0048	0.0039	0.0003	-0	0.003821	0.00027	0	0	0	0.001575	0.000745	5.26E-05
GLY 92	0	0	0	-2E-04	0.000362	2.56E-05	-0.0065	0.0047	0.0003	0.008	0.004734	0.000335	0	0	0	0.001715	0.000764	5.40E-05
TYR 93	0	0	0	-0.001	0.000284	2.01E-05	0.00801	0.0073	0.0005	-0.01	0.007388	0.000522	0	0	0	-0.00183	0.001015	7.18E-05
VAL 94	0	0	0	-7E-04	0.000458	3.24E-05	0.03431	0.0077	0.0005	-0.03	0.008118	0.000574	0	0	0	0.00015	0.001862	0.000132
TRP 95	0	0	0	-0.015	0.0003055	0.000216	0.06638	0.0185	0.0013	-0.04	0.018896	0.001336	0	0	0	0.009595	0.010326	0.00073
LEU 96	0	0	0	-0.002	0.000477	3.37E-05	-0.0111	0.0061	0.0004	0.014	0.006138	0.000434	0	0	0	0.00088	0.000972	6.88E-05
LEU 97	0	0	0	-5E-04	0.000499	3.53E-05	0.01883	0.006	0.0004	-0.02	0.005936	0.00042	0	0	0	5.50E-05	0.000918	6.49E-05
ARG 98	0	0	0	-4E-04	0.000481	3.40E-05	-0.2874	0.0722	0.0051	0.288	0.071899	0.005084	0	0	0	-0.000135	0.001211	8.56E-05
GLY 99	0	0	0	#####	0.000228	1.61E-05	-0.0107	0.003	0.0002	0.011	0.002987	0.000211	0	0	0	-7.00E-05	0.000621	4.39E-05
ASP 100	0	0	0	#####	0.000293	2.07E-05	0.25208	0.0466	0.0033	-0.25	0.046408	0.003282	0	0	0	0.00135	0.000614	4.34E-05
GLU 101	0	0	0	-1E-04	0.000331	2.34E-05	0.21948	0.0431	0.003	-0.22	0.042772	0.003024	0	0	0	0.000895	0.000738	5.22E-05
ALA 102	0	0	0	-1E-04	0.000342	2.42E-05	-0.0159	0.0037	0.0003	0.017	0.003624	0.000256	0	0	0	0.000875	0.000721	5.10E-05
ILE 103	0	0	0	-4E-04	0.000497	3.51E-05	-0.0204	0.0048	0.0003	0.022	0.004857	0.000343	0	0	0	0.00136	0.000775	5.48E-05
GLU 104	0	0	0	-9E-04	0.000366	2.59E-05	0.33945	0.0912	0.0065	-0.33	0.09058	0.006405	0	0	0	0.00525	0.001399	9.89E-05
ALA 105	0	0	0	-4E-04	0.00048	3.39E-05	0.00123	0.0047	0.0003	#####	0.004648	0.000329	0	0	0	0.00081	0.000796	5.63E-05
THR 106	0	0	0	-9E-04	0.000351	2.48E-05	0.02219	0.0056	0.0004	-0.02	0.006102	0.000431	0	0	0	0.003695	0.00182	0.000129
ASN 107	0	0	0	-9E-04	0.000341	2.41E-05	0.00291	0.0061	0.0004	3E-04	0.006107	0.000432	0	0	0	0.0023	0.002343	0.000166
HIE 108	0	0	0	-0.011	0.001528	0.000108	0.0686	0.0318	0.0023	-0.05	0.031959	0.00226	0	0	0	0.010195	0.009044	0.000639
CYS 109	0	0	0	-0.005	0.000696	4.92E-05	0.00642	0.0191	0.0014	-0.04	0.025679	0.001816	0	0	0	-0.040845	0.017697	0.001251
TYR 110	0	0	0	-0.452	0.539312	0.038135	-1.8659	0.8557	0.0605	0.526	0.31553	0.022311	-0.1	0	0	-1.851133	0.599446	0.042387
GLY 111	0	0	0	-0.006	0.000988	6.99E-05	0.05278	0.0183	0.0013	-0.03	0.019888	0.001406	0	0	0	0.015345	0.009852	0.000697
LEU 112	0	0	0	-0.003	0.000538	3.80E-05	0.01524	0.0105	0.0007	-0.03	0.014535	0.001028	0	0	0	-0.01968	0.010724	0.000758
ALA 113	0	0	0	-0.009	0.001642	0.000116	-0.0402	0.0226	0.0016	-0	0.028388	0.002007	0	0	0	-0.05169	0.019993	0.001414
PHE 114	0	0	0	-0.219	0.081062	0.005732	-0.0333	0.0924	0.0065	0.134	0.106087	0.007501	###	0	###	-0.117907	0.084806	0.005997
VAL 115	0	0	0	-0.003	0.000552	3.90E-05	0.00441	0.0105	0.0007	-0.01	0.012769	0.000903	0	0	0	-0.003515	0.006721	0.000475
LEU 116	0	0	0	-0.002	0.000482	3.41E-05	-0.0071	0.0115	0.0008	-0.01	0.015208	0.001075	0	0	0	-0.017395	0.009569	0.000677
LEU 117	0	0	0	-0.014	0.003275	0.000232	-0.0606	0.017	0.0012	0.047	0.018768	0.001327	0	0	0	-0.028005	0.01051	0.000743
ALA 118	0	0	0	-0.002	0.000475	3.36E-05	-0.0369	0.0095	0.0007	0.044	0.009894	0.0007	0	0	0	0.00497	0.003162	0.000224
TYR 119	0	0	0	-1E-03	0.000255	1.80E-05	-0.007	0.0078	0.0006	0.008	0.007983	0.000564	0	0	0	0.00014	0.001752	0.000124
ALA 120	0	0	0	-6E-04	0.000487	3.44E-05	-0.0157	0.0072	0.0005	0.017	0.00747	0.000528	0	0	0	0.000225	0.00218	0.000154
HIE 121	0	0	0	-0.003	0.000614	4.34E-05	-0.0105	0.0234	0.0017	0.021	0.022138	0.001565	0	0	0	0.00764	0.003376	0.000239
ALA 122	0	0	0	-3E-04	0.00047	3.32E-05	-0.016	0.0041	0.0003	0.018	0.004207	0.000297	0	0	0	0.00172	0.00096	6.79E-05
SER 123	0	0	0	-2E-04	0.000371	2.62E-05	-0.0083	0.0045	0.0003	0.011	0.004497	0.000318	0	0	0	0.002365	0.000934	6.60E-05
MET 124	0	0	0	-5E-04	0.000498	3.52E-05	-0.0216	0.0069	0.0005	0.024	0.007094	0.000502	0	0	0	0.001555	0.001003	7.10E-05
ALA 125	0	0	0	-1E-04	0.000352	2.49E-05	-0.0051	0.003	0.0002	0.006	0.00311	0.00022	0	0	0	0.000335	0.000673	4.76E-05
GLY 126	0	0	0	#####	0.000218	1.54E-05	-0.0018	0.0022	0.0002	0.002	0.00218	0.000154	0	0	0	0.00034	0.000628	4.44E-05
ILE 127	0	0	0	-2E-04	0.000404	2.85E-05	0.00168	0.0021	0.0001	-0	0.002076	0.000147	0	0	0	0.00045	0.000712	5.04E-05
ASP 128	0	0	0	#####	0.000263	1.86E-05	0.11955	0.0336	0.0024	-0.12	0.033465	0.002366	0	0	0	7.00E-05	0.000621	4.39E-05
GLU 129	0	0	0	#####	0.000271	1.92E-05	0.17565	0.0378	0.0027	-0.17	0.037555	0.002656	0	0	0	0.00099	0.000707	5.00E-05
ALA 130	0	0	0	-1E-04	0.000307	2.17E-05	#####	0.0028	0.0002	6E-04	0.002814	0.000199	0	0	0	0.00057	0.000725	5.12E-05
ARG 131	0	0	0	-2E-04	0.000384	2.72E-05	-0.0908	0.0367	0.0026	0.091	0.036664	0.002593	0	0	0	0.00028	0.000813	5.75E-05
PRO 132	0	0	0	-1E-04	0.000342	2.42E-05	-0.0023	0.0024	0.0002	0.002	0.002453	0.000173	0	0	0	-0.000105	0.000666	4.71E-05
TRP 133	0	0	0	-3E-04	0.000472	3.34E-05	0.00962	0.0041	0.0003	-0.01	0.004181	0.000296	0	0	0	-0.000395	0.000943	6.67E-05
ILE 134	0	0	0	-5E-04	0.0005	3.53E-05	0.00767	0.0046	0.0003	-0.01	0.004663	0.00033	0	0	0	-5.00E-06	0.000982	6.95E-05
GLY 135	0	0	0	-1E-04	0.000342	2.42E-05	-0.0007	0.0028	0.0002	4E-04	0.002909	0.000206	0	0	0	-0.000395	0.000727	5.14E-05
GLU 136	0	0	0	-2E-04	0.00038	2.69E-05	0.18627	0.0511	0.0036	-0.18	0.05067	0.003583	0	0	0	0.00182	0.000921	6.51E-05
ALA 137	0	0	0	-5E-04	0.000498	3.52E-05	-0.0029	0.0048	0.0003	0.004	0.004735	0.000335	0	0	0	0.000625	0.001528	0.000108
PHE 138	0	0	0	-6E-04	0.000483	3.41E-05	0.00292	0.0039	0.0003	-0	0.004019	0.000284	0	0	0	-0.001435	0.001177	8.32E-05
GLN 139	0	0	0	-2E-04	0.000418	2.95E-05	-0.0104	0.0028	0.0002	0.012	0.002919	0.000206	0	0	0	0.00088	0.000785	5.55E-05
LEU 140	0	0	0	-4E-04	0.00049	3.46E-05	-0.0102	0.0043	0.0003	0.013	0.004321	0.000306	0	0	0	0.002475	0.001049	7.41E-05
MET 141	0	0	0	-0.002	0.000491	3.47E-05	-0.0002	0.0126	0.0009	0.004	0.012383	0.000876	0	0	0	0.001775	0.001595	0.000113
GLU 142	0	0	0	-3E-04	0.00046	3.26E-05	0.00677	0.0761	0.0054	-0.01	0.075657	0.00535	0	0	0	-0.000515	0.00148	0.000105
ASP 143	0	0	0	-1E-04	0.000331	2.34E-05	0.07812	0.0494	0.0035	-0.08	0.049095	0.003472	0	0	0	1.00E-05	0.000768	5.43E-05
HIE 144	0	0	0	-3E-04	0.000454	3.21E-05	-0.0082	0.005	0.0004	0.011	0.004885	0.000345	0	0	0	0.002505	0.000964	6.82E-05
PHE 145	0	0	0	-0.001	0.000401	2.84E-05	-0.0072	0.0034	0.0002	0.006	0.003616	0.000256	0	0	0	-0.00202	0.001216	8.60E-05
TRP 146	0	0	0	-6E-04	0.000488	3.45E-05	0.0088	0.0027	0.0002	-0.01	0.002793	0.000197	0	0	0	-0.00301	0.001364	9.64E-05
SER 147	0	0	0	-2E-04	0.000376	2.66E-05	-0.0107	0.0034	0.0002	0.011	0.003316	0.000234	0	0	0	0.00046	0.000761	5.38E-05
GLU 148	0	0	0	-1E-04	0.000325	2.30E-05	-0.061	0.0589	0.0042	0.061	0.058677	0.004149	0	0	0	-0.000495	0.000837	5.92E-05
ARG 149	0	0	0	-1E-04	0.0003	2.1												

MET 174	0	0	0	-0.427	0.175494	0.012409	-0.1926	0.3786	0.0268	0.134	0.271938	0.019229	-0	0	0	-0.493767	0.221746	0.01568
HIE 175	0	0	0	-0.821	0.345753	0.024448	1.0639	1.5506	0.1096	-0.91	1.040627	0.073583	-0	0	0	-0.685127	0.715115	0.050566
SER 176	0	0	0	-0.009	0.001322	9.35E-05	0.00405	0.0255	0.0018	-0.02	0.036598	0.002584	0	0	0	-0.024235	0.020301	0.001435
CYS 177	0	0	0	-0.007	0.000957	6.77E-05	0.08012	0.0393	0.0028	-0.13	0.049504	0.0035	0	0	0	-0.056345	0.026957	0.001906
GLU 178	0	0	0	-0.041	0.01448	0.001024	-0.5347	0.3546	0.0251	0.576	0.400606	0.028327	0	0	0	4.00E-05	0.071233	0.005037
ALA 179	0	0	0	-0.005	0.000928	6.56E-05	0.00372	0.0177	0.0013	-0.01	0.021914	0.00155	0	0	0	-0.00996	0.010406	0.000736
MET 180	0	0	0	-0.002	0.000466	3.30E-05	0.02533	0.0167	0.0012	-0.02	0.018372	0.001299	0	0	0	0.00555	0.005703	0.000403
LEU 181	0	0	0	-0.003	0.000537	3.79E-05	0.03485	0.0138	0.001	-0.03	0.015879	0.001123	0	0	0	-0.001495	0.004902	0.000347
ALA 182	0	0	0	-0.001	0.000436	3.08E-05	-0.0045	0.0104	0.0007	0.006	0.010933	0.000773	0	0	0	-0.00026	0.003097	0.000219
ALA 183	0	0	0	-5E-04	0.000498	3.52E-05	0.00592	0.0064	0.0004	-0	0.006415	0.000454	0	0	0	0.00419	0.001521	0.000108
TYR 184	0	0	0	-4E-04	0.000495	3.50E-05	0.00985	0.0052	0.0004	-0.01	0.005089	0.00036	0	0	0	0.001865	0.001103	7.80E-05
ASP 185	0	0	0	-4E-04	0.000496	3.51E-05	-0.0424	0.0663	0.0047	0.046	0.066135	0.004676	0	0	0	0.003075	0.00122	8.63E-05
ALA 186	0	0	0	-2E-04	0.0004	2.83E-05	0.0002	0.0039	0.0003	0.001	0.003887	0.000275	0	0	0	0.001235	0.000842	5.96E-05
THR 187	0	0	0	-1E-04	0.000325	2.30E-05	-0.0024	0.0034	0.0002	0.003	0.003343	0.000236	0	0	0	0.00093	0.000738	5.22E-05
GLY 188	0	0	0	#####	0.000228	1.61E-05	-0.0015	0.0024	0.0002	0.002	0.002519	0.000178	0	0	0	0.000425	0.000659	4.66E-05
GLU 189	0	0	0	-1E-04	0.000319	2.26E-05	0.00901	0.0471	0.0033	-0.01	0.046927	0.003318	0	0	0	-0.00017	0.000722	5.10E-05
ARG 190	0	0	0	-1E-04	0.000352	2.49E-05	0.08173	0.0401	0.0028	-0.08	0.03997	0.002826	0	0	0	0.00064	0.000781	5.52E-05
ARG 191	0	0	0	-2E-04	0.000396	2.80E-05	-0.0293	0.0493	0.0035	0.032	0.049162	0.003476	0	0	0	0.00257	0.000857	6.06E-05
TYR 192	0	0	0	-6E-04	0.000496	3.51E-05	-0.0156	0.0073	0.0005	0.013	0.007072	0.0005	0	0	0	-0.003235	0.001375	9.72E-05
LEU 193	0	0	0	-4E-04	0.000497	3.52E-05	-0.018	0.0056	0.0004	0.018	0.005469	0.000387	0	0	0	-0.000495	0.001	7.07E-05
GLU 194	0	0	0	-2E-04	0.000392	2.77E-05	-0.1441	0.0575	0.0041	0.142	0.057202	0.004045	0	0	0	-0.001925	0.000979	6.93E-05
ARG 195	0	0	0	-8E-04	0.000411	2.90E-05	0.04875	0.0802	0.0057	-0.04	0.080284	0.005677	0	0	0	0.003955	0.003761	0.000266
ALA 196	0	0	0	-9E-04	0.000322	2.28E-05	-0.0293	0.0085	0.0006	0.025	0.008671	0.000613	0	0	0	-0.004905	0.003247	0.00023
GLU 197	0	0	0	-6E-04	0.000491	3.47E-05	-0.268	0.075	0.0053	0.267	0.074826	0.005291	0	0	0	-0.00201	0.002452	0.000173
THR 198	0	0	0	-5E-04	0.000498	3.52E-05	-0.0069	0.0051	0.0004	0.012	0.005514	0.00039	0	0	0	0.004475	0.002328	0.000165
LEU 199	0	0	0	-0.002	0.00052	3.67E-05	-0.0087	0.0082	0.0006	0.002	0.011218	0.000793	0	0	0	-0.00918	0.006404	0.000453
ALA 200	0	0	0	-0.001	0.00045	3.18E-05	-0.012	0.0068	0.0005	0.014	0.007107	0.000503	0	0	0	0.00043	0.002072	0.000147
ARG 201	0	0	0	-6E-04	0.00049	3.46E-05	0.22689	0.0658	0.0047	-0.22	0.065287	0.004616	0	0	0	0.00441	0.00199	0.000141
ASN 202	0	0	0	-7E-04	0.00047	3.32E-05	0.00191	0.011	0.0008	0.004	0.011343	0.000802	0	0	0	0.005165	0.002642	0.000187
ILE 203	0	0	0	-0.005	0.000857	6.06E-05	0.03491	0.0146	0.001	-0.04	0.016872	0.001193	0	0	0	-0.00722	0.006803	0.000481
THR 204	0	0	0	-0.002	0.000442	3.12E-05	0.02415	0.0117	0.0008	-0.01	0.012174	0.000861	0	0	0	0.008095	0.003466	0.000245
VAL 205	0	0	0	-5E-04	0.000499	3.53E-05	-0.0051	0.0043	0.0003	0.007	0.004065	0.000287	0	0	0	0.0015	0.001591	0.000112
ARG 206	0	0	0	-4E-04	0.000496	3.51E-05	0.17877	0.0778	0.0055	-0.17	0.07689	0.005437	0	0	0	0.008435	0.003637	0.000257
GLN 207	0	0	0	-0.001	0.000308	2.18E-05	0.02075	0.0136	0.001	-0.01	0.012668	0.000896	0	0	0	0.008965	0.003606	0.000255
ALA 208	0	0	0	-6E-04	0.00049	3.46E-05	0.01351	0.0054	0.0004	-0.01	0.0052	0.000368	0	0	0	0.00116	0.001146	8.11E-05
ASP 209	0	0	0	-3E-04	0.000441	3.12E-05	-0.2444	0.0658	0.0047	0.243	0.065575	0.004637	0	0	0	-0.001615	0.001143	8.08E-05
LEU 210	0	0	0	-3E-04	0.000454	3.21E-05	0.00792	0.0046	0.0003	-0.01	0.004523	0.00032	0	0	0	0.002265	0.000997	7.05E-05
ALA 211	0	0	0	-5E-04	0.000499	3.53E-05	-0.006	0.0072	0.0005	0.008	0.007215	0.00051	0	0	0	0.00191	0.00103	7.29E-05
GLN 212	0	0	0	-3E-04	0.000441	3.12E-05	-0.0106	0.0125	0.0009	0.012	0.012872	0.00091	0	0	0	0.00149	0.000943	6.67E-05
GLY 213	0	0	0	-3E-04	0.00047	3.32E-05	-0.0126	0.0058	0.0004	0.016	0.005517	0.00039	0	0	0	0.002605	0.001382	9.77E-05
LEU 214	0	0	0	-0.002	0.000497	3.52E-05	0.0405	0.009	0.0006	-0.03	0.009396	0.000664	0	0	0	0.004075	0.004037	0.000285
ILE 215	0	0	0	-0.008	0.001642	0.000116	-0.0121	0.0153	0.0011	0.017	0.016615	0.001175	0	0	0	-0.003385	0.00647	0.000458
TRP 216	0	0	0	-0.006	0.001029	7.28E-05	-0.0434	0.0161	0.0011	0.029	0.01702	0.001204	0	0	0	-0.019715	0.005271	0.000373
GLU 217	0	0	0	-0.05	0.014141	0.001	0.03807	0.4582	0.0324	0.126	0.465976	0.03295	0	0	0	0.114135	0.165344	0.011692
HIE 218	0	0	0	-0.006	0.001205	8.52E-05	-0.0082	0.0164	0.0012	0.018	0.019915	0.001408	0	0	0	0.00389	0.009409	0.000665
TYR 219	0	0	0	-0.003	0.000587	4.15E-05	0.01514	0.008	0.0006	-0.02	0.008119	0.000574	0	0	0	-0.004015	0.003191	0.000226
HIE 220	0	0	0	-5E-04	0.000498	3.52E-05	-0.0092	0.0098	0.0007	0.01	0.009555	0.000676	0	0	0	0.00054	0.001224	8.66E-05
SER 221	0	0	0	-2E-04	0.000371	2.62E-05	-0.0032	0.0041	0.0003	0.004	0.004181	0.000296	0	0	0	0.000835	0.000948	6.70E-05
ASP 222	0	0	0	-1E-04	0.000313	2.21E-05	-0.0682	0.0553	0.0039	0.069	0.055048	0.003892	0	0	0	0.000315	0.000739	5.22E-05
TRP 223	0	0	0	-0.002	0.000507	3.58E-05	-0.021	0.0049	0.0003	0.012	0.006181	0.000437	0	0	0	-0.01056	0.003223	0.000228
SER 224	0	0	0	-2E-04	0.000414	2.93E-05	0.00524	0.0048	0.0003	-0	0.004667	0.00033	0	0	0	0.001085	0.000841	5.95E-05
VAL 225	0	0	0	-5E-04	0.000499	3.53E-05	0.0114	0.0059	0.0004	-0.01	0.005762	0.000407	0	0	0	0.00186	0.001096	7.75E-05
ASP 226	0	0	0	-5E-04	0.0005	3.54E-05	-0.0631	0.0704	0.005	0.068	0.069924	0.004944	0	0	0	0.004145	0.001138	8.04E-05
TRP 227	0	0	0	-8E-04	0.000392	2.77E-05	-0.0053	0.0051	0.0004	0.008	0.005121	0.000362	0	0	0	0.0016	0.001077	7.62E-05
GLU 228	0	0	0	-4E-04	0.000483	3.41E-05	-0.0704	0.0554	0.0039	0.073	0.055051	0.003893	0	0	0	0.001725	0.001015	7.17E-05
TYR 229	0	0	0	-0.002	0.000536	3.79E-05	-0.0152	0.0095	0.0007	0.024	0.009508	0.000672	0	0	0	0.007335	0.00168	0.000119
ASN 230	0	0	0	-0.003	0.001116	7.89E-05	0.00912	0.0186	0.0013	0.012	0.018743	0.001325	0	0	0	0.018165	0.00639	0.000452
LYS 231	0	0	0	-9E-04	0.000354	2.51E-05	0.05042	0.0536	0.0038	-0.05	0.053295	0.003769	0	0	0	0.00085	0.001673	0.000118
ASN 232	0	0	0	-7E-04	0.000454	3.21E-05	-0.0045	0.0083	0.0006	0.01	0.008677	0.000614	0	0	0	0.005235	0.001622	0.000115
ASP 233	0	0	0	-0.002	0.000517	3.67E-05	0.11626	0.097	0.0069	-0.11	0.09694	0.006855	0	0	0	0.00756	0.003962	0.00028
ARG 234	0	0	0	-0.006	0.001438	0.000102	0.0738	0.083	0.0059	-0.05	0.082144	0.005808	0	0	0	0.01919	0.006102	0.000431
THR 235	0	0	0	-0.006	0.001157	8.18E-05	0.01867	0.017	0.0012	-0	0.018904	0.001337	0	0	0	0.012615	0.004907	0.000347
ASN 236	0	0	0	-0.038	0.007168	0.000507	0.04215	0.0902	0.0064	-0.06	0.093091	0.006583	0	0	0	-0.051985	0.027939	0.001976
ILE 237	0	0	0	-0.3	0.123972	0.008766	0.08852	0.2271	0.0161	0.187	0.216413	0.015303	-0.1	0	0	-0.078287	0.122712	0.008677
PHE 238	0	0																

ALA 263	0	0	0	#####	0.000263	1.86E-05	0.00782	0.0019	0.0001	-0.01	0.001881	0.000133	0	0	0	2.00E-05	0.00064	4.53E-05
ARG 264	0	0	0	-2E-04	0.000411	2.90E-05	0.09419	0.0547	0.0039	-0.09	0.054403	0.003847	0	0	0	0.00223	0.000942	6.66E-05
LEU 265	0	0	0	-1E-04	0.000313	2.21E-05	-0.0048	0.0024	0.0002	0.005	0.002297	0.000162	0	0	0	-4.50E-05	0.000658	4.65E-05
ARG 266	0	0	0	#####	0.000196	1.39E-05	0.08877	0.0309	0.0022	-0.09	0.030725	0.002173	0	0	0	0.00033	0.000649	4.59E-05
THR 267	0	0	0	#####	0.000184	1.30E-05	-0.0046	0.0038	0.0003	0.005	0.003696	0.000261	0	0	0	9.00E-05	0.000642	4.54E-05
GLY 268	0	0	0	#####	0.000171	1.21E-05	-0.0035	0.0028	0.0002	0.003	0.002755	0.000195	0	0	0	-0.00013	0.000603	4.26E-05
GLY 269	0	0	0	#####	0.000228	1.61E-05	-0.0112	0.0028	0.0002	0.011	0.002755	0.000195	0	0	0	0.00013	0.000681	4.81E-05
ASP 270	0	0	0	#####	0.000237	1.68E-05	-0.2065	0.0441	0.0031	0.206	0.043939	0.003107	0	0	0	-0.00095	0.000661	4.68E-05
TRP 271	0	0	0	-5E-04	0.0005	3.54E-05	-0.0227	0.0042	0.0003	0.022	0.004308	0.000305	0	0	0	-0.001605	0.001187	8.39E-05
LEU 272	0	0	0	-4E-04	0.000497	3.52E-05	-0.0275	0.0053	0.0004	0.029	0.005331	0.000377	0	0	0	0.00117	0.001269	8.98E-05
VAL 273	0	0	0	-3E-04	0.000439	3.10E-05	-0.0271	0.0047	0.0003	0.026	0.004523	0.00032	0	0	0	-0.001675	0.001288	9.11E-05
PRO 274	0	0	0	-2E-04	0.000424	3.00E-05	-0.0173	0.0041	0.0003	0.017	0.003863	0.000273	0	0	0	-0.00088	0.001008	7.13E-05
ARG 275	0	0	0	-9E-04	0.000268	1.90E-05	0.43213	0.0885	0.0063	-0.41	0.087845	0.006212	0	0	0	0.016765	0.003795	0.000268
ALA 276	0	0	0	-7E-04	0.000433	3.06E-05	-0.0275	0.0064	0.0005	0.028	0.006812	0.000482	0	0	0	-0.000435	0.002094	0.000148
CYS 277	0	0	0	-4E-04	0.000489	3.46E-05	-0.0165	0.0069	0.0005	0.018	0.006304	0.000446	0	0	0	0.001355	0.001777	0.000126
GLN 278	0	0	0	-5E-04	0.0005	3.53E-05	-0.0112	0.0127	0.0009	0.018	0.012081	0.000854	0	0	0	0.00626	0.001695	0.00012
LEU 279	0	0	0	-0.003	0.000499	3.53E-05	0.00556	0.0146	0.001	-0.01	0.015532	0.001098	0	0	0	-0.00374	0.004853	0.000343
PHE 280	0	0	0	-0.002	0.000444	3.14E-05	-0.0056	0.0095	0.0007	0.001	0.008934	0.000632	0	0	0	-0.00671	0.002749	0.000194
ASP 281	0	0	0	-5E-04	0.0005	3.54E-05	-0.413	0.0661	0.0047	0.41	0.065787	0.004652	0	0	0	-0.003365	0.002126	0.00015
ALA 282	0	0	0	-6E-04	0.000483	3.41E-05	0.02442	0.0071	0.0005	-0.02	0.007177	0.000507	0	0	0	0.00476	0.002335	0.000165
ALA 283	0	0	0	-0.002	0.000436	3.08E-05	0.03761	0.0102	0.0007	-0.03	0.010765	0.000761	0	0	0	0.0022	0.002825	0.0002
VAL 284	0	0	0	-0.001	0.000292	2.06E-05	0.01086	0.0059	0.0004	-0.01	0.00543	0.000384	0	0	0	0.004305	0.001908	0.000135
ALA 285	0	0	0	-4E-04	0.000477	3.37E-05	0.01626	0.0039	0.0003	-0.01	0.003797	0.000268	0	0	0	0.00173	0.001117	7.90E-05
LYS 286	0	0	0	-8E-04	0.000409	2.89E-05	0.36543	0.078	0.0055	-0.35	0.077459	0.005477	0	0	0	0.010935	0.001653	0.000117
ALA 287	0	0	0	-0.001	0.000367	2.59E-05	0.00757	0.0089	0.0006	-0.01	0.008668	0.000613	0	0	0	-0.000905	0.001321	9.34E-05
TRP 288	0	0	0	-0.001	0.000449	3.17E-05	-0.0028	0.0039	0.0003	#####	0.004007	0.000283	0	0	0	-0.00405	0.001731	0.000122
ASP 289	0	0	0	-4E-04	0.000496	3.51E-05	-0.2362	0.0736	0.0052	0.236	0.073171	0.005174	0	0	0	-0.00099	0.001127	7.97E-05
ALA 290	0	0	0	-1E-04	0.0003	2.12E-05	0.00502	0.0024	0.0002	-0.01	0.002467	0.000174	0	0	0	-0.00039	0.000662	4.68E-05
GLU 291	0	0	0	-1E-04	0.000331	2.34E-05	-0.1419	0.0479	0.0034	0.142	0.047769	0.003378	0	0	0	0.000125	0.000842	5.96E-05
TYR 292	0	0	0	-3E-04	0.00046	3.26E-05	0.00532	0.0035	0.0002	-0	0.003478	0.000246	0	0	0	0.00144	0.000852	6.03E-05
GLY 293	0	0	0	-3E-04	0.000436	3.08E-05	0.00984	0.0054	0.0004	-0.01	0.00544	0.000385	0	0	0	0.001415	0.001246	8.81E-05
GLY 294	0	0	0	-7E-04	0.000456	3.22E-05	0.02926	0.0093	0.0007	-0.03	0.009912	0.000701	0	0	0	0.0007	0.003575	0.000253
LEU 295	0	0	0	-0.006	0.00074	5.23E-05	0.01722	0.0144	0.001	-0.03	0.016565	0.001171	0	0	0	-0.014165	0.005642	0.000399
HIE 296	0	0	0	-0.004	0.00068	4.81E-05	-0.0908	0.026	0.0018	0.078	0.028539	0.002018	0	0	0	-0.01639	0.006672	0.000472
TYR 297	0	0	0	-0.139	0.042104	0.002977	-0.0572	0.1277	0.009	0.236	0.110395	0.007806	-0	0	0	0.0318889	0.05072	0.003586
GLY 298	0	0	0	-0.003	0.000578	4.09E-05	0.01392	0.0104	0.0007	-0	0.01027	0.000726	0	0	0	0.008365	0.002598	0.000184
PHE 299	0	0	0	-0.003	0.000557	3.94E-05	-0.008	0.0092	0.0007	0.007	0.009014	0.000637	0	0	0	-0.0042	0.003087	0.000218
ALA 300	0	0	0	-5E-04	0.000498	3.52E-05	-0.0194	0.0052	0.0004	0.022	0.005496	0.000389	0	0	0	0.001655	0.001239	8.76E-05
PRO 301	0	0	0	-5E-04	0.0005	3.53E-05	-0.0068	0.0038	0.0003	0.005	0.00404	0.000286	0	0	0	-0.002355	0.001224	8.66E-05
ASP 302	0	0	0	-1E-04	0.000347	2.45E-05	-0.1595	0.053	0.0037	0.16	0.052596	0.003719	0	0	0	0.000755	0.000987	6.98E-05
GLY 303	0	0	0	-1E-04	0.000352	2.49E-05	-0.0022	0.0069	0.0005	0.004	0.006941	0.000491	0	0	0	0.001785	0.000741	5.24E-05
ALA 304	0	0	0	-3E-04	0.000456	3.22E-05	-0.0117	0.0067	0.0005	0.012	0.006459	0.000457	0	0	0	0.00032	0.000921	6.51E-05
ILE 305	0	0	0	-9E-04	0.00031	2.19E-05	0.01879	0.0067	0.0005	-0.01	0.006515	0.000461	0	0	0	0.00322	0.001045	7.39E-05
CYS 306	0	0	0	-0.001	0.000465	3.29E-05	0.00888	0.0046	0.0003	-0	0.004364	0.000309	0	0	0	0.00264	0.001315	9.30E-05
ASP 307	0	0	0	-0.003	0.000649	4.59E-05	-0.2206	0.17	0.012	0.242	0.168686	0.011928	0	0	0	0.017915	0.004905	0.000347
SER 308	0	0	0	-0.001	0.000363	2.57E-05	#####	0.0062	0.0004	0.001	0.00594	0.00042	0	0	0	4.76E-16	0.001895	0.000134
ASP 309	0	0	0	-0.004	0.000685	4.85E-05	-0.1971	0.1518	0.0107	0.204	0.151559	0.010177	0	0	0	0.002795	0.005482	0.000388
LYS 310	0	0	0	-0.005	0.000646	4.57E-05	0.33179	0.1197	0.0085	-0.32	0.117255	0.008291	0	0	0	0.010305	0.007539	0.000533
TYR 311	0	0	0	-0.096	0.019633	0.001388	-0.0185	0.0433	0.0031	0.082	0.051872	0.003668	-0	0	0	-0.033173	0.020317	0.001437
PHE 312	0	0	0	-0.133	0.043962	0.003109	-0.1116	0.0643	0.0045	0.101	0.075697	0.005353	-0	0	0	-0.158039	0.064508	0.004561
TRP 313	0	0	0	-2.79	0.335619	0.023732	-1.5783	0.3375	0.0239	0.528	0.33815	0.023911	-0.2	0	0	-4.052142	0.463587	0.032781
VAL 314	0	0	0	-0.099	0.012864	0.00091	-0.0465	0.0455	0.0032	-0.07	0.051645	0.003652	0	0	0	-0.21505	0.036269	0.002565
GLN 315	0	0	0	-0.015	0.001672	0.000118	-0.0244	0.0446	0.0032	-0.02	0.048621	0.003438	0	0	0	-0.064085	0.023099	0.001633
ALA 316	0	0	0	-0.019	0.00302	0.000214	0.03672	0.0388	0.0027	-0.11	0.041042	0.002902	0	0	0	-0.08763	0.028321	0.002003
GLU 317	0	0	0	-0.24	0.054838	0.003878	-1.1235	0.6319	0.0447	1.551	0.641727	0.045377	###	0	###	0.1879411	0.142637	0.010086
SER 318	0	0	0	-0.009	0.00126	8.91E-05	0.008	0.0335	0.0024	0.004	0.039862	0.002819	0	0	0	0.002805	0.014537	0.001028
LEU 319	0	0	0	-0.004	0.000531	3.75E-05	0.01469	0.0156	0.0011	-0.02	0.019023	0.001345	0	0	0	-0.005275	0.009612	0.00068
ALA 320	0	0	0	-0.004	0.000785	5.55E-05	0.07468	0.0181	0.0013	-0.07	0.022189	0.001569	0	0	0	-0.00078	0.009422	0.000666
ALA 321	0	0	0	-0.003	0.000539	3.81E-05	0.07494	0.0121	0.0009	-0.06	0.012845	0.000908	0	0	0	0.010875	0.005323	0.000376
ALA 322	0	0	0	-8E-04	0.000371	2.62E-05	0.01997	0.0073	0.0005	-0.01	0.007239	0.000512	0	0	0	0.008625	0.002415	0.000171
ALA 323	0	0	0	-5E-04	0.0005	3.53E-05	0.02231	0.0071	0.0005	-0.01	0.006787	0.00048	0	0	0	0.006955	0.001665	0.000118
LEU 324	0	0	0	-0.001	0.000491	3.47E-05	0.04301	0.0077	0.0005	-0.04	0.007874	0.000557	0	0	0	0.00565	0.001813	0.000128
LEU 325	0	0	0	-8E-04	0.000388	2.75E-05	0.03177	0.0054	0.0004	-0.03	0.00553	0.000391	0	0	0	0.00229	0.00137	9.68E-05
ALA 326	0	0	0	-1E-04	0.000336	2.38E-05	0.01252	0.0037	0.0003	-0.01	0.003611	0.000255	0	0	0	-0.000125	0.001	7.07E-05
ALA 327	0	0	0	-2E-04	0.													

HIE 352	0	0	0	-2E-04	0.000421	2.98E-05	0.01049	0.0044	0.0003	-0.01	0.004298	0.000304	0	0	0	0.00098	0.000768	5.43E-05
GLN 353	0	0	0	-1E-04	0.000325	2.30E-05	-0.0037	0.0052	0.0004	0.004	0.005227	0.00037	0	0	0	0.000455	0.000706	4.99E-05
TYR 354	0	0	0	-2E-04	0.000414	2.93E-05	0.00914	0.0038	0.0003	-0.01	0.003722	0.000263	0	0	0	0.00108	0.000821	5.80E-05
GLY 355	0	0	0	-3E-04	0.000449	3.17E-05	0.00531	0.0055	0.0004	-0	0.005583	0.000395	0	0	0	0.00101	0.001025	7.25E-05
ALA 356	0	0	0	-0.001	0.000429	3.03E-05	-0.0247	0.0118	0.0008	0.021	0.011849	0.000838	0	0	0	-0.005175	0.003916	0.000277
TRP 357	0	0	0	-0.007	0.001149	8.12E-05	0.04386	0.0182	0.0013	-0.03	0.018604	0.001315	0	0	0	0.00431	0.007467	0.000528
TYR 358	0	0	0	-0.004	0.000608	4.30E-05	-0.0252	0.0203	0.0014	0.039	0.01936	0.001369	0	0	0	0.010785	0.004643	0.000328
ARG 359	0	0	0	-0.027	0.00632	0.000447	-0.3022	0.281	0.0199	0.363	0.277121	0.019595	0	0	0	0.033895	0.00926	0.000655
ILE 360	0	0	0	-0.014	0.0031	0.000219	0.02797	0.0116	0.0008	-0.03	0.011674	0.000825	0	0	0	-0.011975	0.004876	0.000345
LEU 361	0	0	0	-0.002	0.000513	3.63E-05	-0.0109	0.0099	0.0007	0.013	0.00972	0.000687	0	0	0	-0.00073	0.00169	0.00012
THR 362	0	0	0	-7E-04	0.000458	3.24E-05	-0.009	0.0068	0.0005	0.011	0.00631	0.000446	0	0	0	0.00156	0.001444	0.000102
ARG 363	0	0	0	-7E-04	0.00046	3.26E-05	0.15799	0.0707	0.005	-0.15	0.070151	0.00496	0	0	0	0.00441	0.001507	0.000107
ASP 364	0	0	0	-3E-04	0.000444	3.14E-05	-0.0902	0.0625	0.0044	0.09	0.06206	0.004388	0	0	0	-0.000405	0.001167	8.25E-05
ASN 365	0	0	0	-6E-04	0.000494	3.50E-05	-0.0067	0.0053	0.0004	0.01	0.005374	0.00038	0	0	0	0.002615	0.001047	7.41E-05
ARG 366	0	0	0	-5E-04	0.0005	3.53E-05	0.04206	0.0555	0.0039	-0.04	0.055188	0.003902	0	0	0	0.000995	0.001111	7.86E-05
LYS 367	0	0	0	-8E-04	0.000427	3.02E-05	-0.0712	0.0961	0.0068	0.077	0.095218	0.006733	0	0	0	0.00505	0.001624	0.000115
TYR 368	0	0	0	-0.002	0.000489	3.46E-05	0.00971	0.013	0.0009	-0.01	0.012868	0.00091	0	0	0	0.001985	0.001042	7.36E-05
SER 369	0	0	0	-6E-04	0.000479	3.38E-05	-0.0025	0.0093	0.0007	0.006	0.009328	0.00066	0	0	0	0.00312	0.001211	8.56E-05
ASP 370	0	0	0	-5E-04	0.000499	3.53E-05	0.11366	0.0803	0.0057	-0.11	0.079844	0.005646	0	0	0	0.00171	0.001138	8.05E-05
GLU 371	0	0	0	-0.002	0.000512	3.62E-05	0.21101	0.1268	0.009	-0.2	0.12639	0.008937	0	0	0	0.00654	0.00228	0.000161
LYS 372	0	0	0	-0.003	0.000644	4.55E-05	-0.1789	0.0954	0.0067	0.184	0.094319	0.006669	0	0	0	0.001645	0.0048	0.000339
SER 373	0	0	0	-0.005	0.000863	6.10E-05	-0.0435	0.0214	0.0015	0.048	0.021407	0.001514	0	0	0	-0.00027	0.005353	0.000379
PRO 374	0	0	0	-0.011	0.0021	0.000148	0.09736	0.0453	0.0032	-0.09	0.043769	0.003095	0	0	0	-0.00357	0.006454	0.000456
ALA 375	0	0	0	-0.016	0.003301	0.000233	-0.0334	0.0743	0.0053	0.06	0.079204	0.005601	0	0	0	0.010965	0.016573	0.001172
GLY 376	0	0	0	-0.113	0.049534	0.003503	0.52552	0.2037	0.0144	-0.48	0.151651	0.010723	-0	0	0	-0.073977	0.061441	0.004345
LYS 377	0	0	0	-0.079	0.017432	0.001233	-0.5685	0.323	0.0228	0.564	0.316239	0.022361	-0	0	0	-0.084409	0.057032	0.004033
THR 378	0	0	0	-0.022	0.004027	0.000285	0.01835	0.0357	0.0025	-0.01	0.040323	0.002851	0	0	0	-0.01497	0.014045	0.000993
ASP 379	0	0	0	-0.018	0.002966	0.00021	0.43371	0.21	0.0148	-0.38	0.207207	0.014652	0	0	0	0.0313	0.02373	0.001678
TYR 380	0	0	0	-0.455	0.116856	0.008263	0.36153	0.3856	0.0273	0.04	0.194444	0.013749	-0	0	0	-0.053989	0.280242	0.019816
HIE 381	0	0	0	-1.021	0.310728	0.021972	-3.8221	0.8057	0.057	2.048	0.402892	0.028489	-0.1	0	0	-2.860847	0.478028	0.033802
THR 382	0	0	0	-0.011	0.001287	9.10E-05	-0.0743	0.0297	0.0021	0.062	0.026835	0.001898	0	0	0	-0.02367	0.018542	0.001311
MET 383	0	0	0	-0.005	0.000642	4.54E-05	-0.0614	0.0319	0.0023	0.053	0.032847	0.002323	0	0	0	-0.0133	0.007727	0.000546
GLY 384	0	0	0	-0.004	0.00066	4.67E-05	-0.0411	0.0266	0.0019	0.035	0.029898	0.002114	0	0	0	-0.009975	0.010272	0.000726
ALA 385	0	0	0	-0.004	0.000647	4.58E-05	-0.0094	0.0157	0.0011	0.014	0.016265	0.00115	0	0	0	0.000485	0.007025	0.000497
CYS 386	0	0	0	-0.001	0.000439	3.10E-05	-0.0303	0.0111	0.0008	0.037	0.01146	0.00081	0	0	0	0.005605	0.003423	0.000242
TYR 387	0	0	0	-0.002	0.000501	3.54E-05	-0.007	0.0129	0.0009	0.013	0.012824	0.000907	0	0	0	0.004785	0.001615	0.000114
GLU 388	0	0	0	-0.002	0.000536	3.79E-05	-0.2537	0.0958	0.0068	0.257	0.094309	0.006669	0	0	0	0.001445	0.003934	0.000278
VAL 389	0	0	0	-7E-04	0.000474	3.35E-05	-0.0009	0.0055	0.0004	0.005	0.005776	0.000408	0	0	0	0.00315	0.00167	0.000118
LEU 390	0	0	0	-4E-04	0.000483	3.41E-05	-0.0017	0.0043	0.0003	0.003	0.004185	0.000296	0	0	0	0.0005	0.001077	7.62E-05
ASN 391	0	0	0	-3E-04	0.000439	3.10E-05	0.03146	0.0095	0.0007	-0.03	0.009041	0.000639	0	0	0	0.004485	0.001706	0.000121
VAL 392	0	0	0	-3E-04	0.000458	3.24E-05	0.00588	0.0037	0.0003	-0	0.003756	0.000266	0	0	0	0.0007	0.000825	5.83E-05
VAL 393	0	0	0	-1E-04	0.000331	2.34E-05	0.0017	0.0026	0.0002	-0	0.002532	0.000179	0	0	0	0.000105	0.00071	5.02E-05
SER 394	0	0	0	#####	0.000184	1.30E-05	-0.0774	0.0359	0.0025	0.077	0.035757	0.002528	0	0	0	-0.00069	0.000643	4.55E-05