Electronic Supplementary Material (ESI) for RSC Advances.

Electronic Supplementary Information

A Facile Approach to Cross-Reactively Colorimetric Sensor Arrays: An Application in the Recognition of 20 Natural Amino Acids

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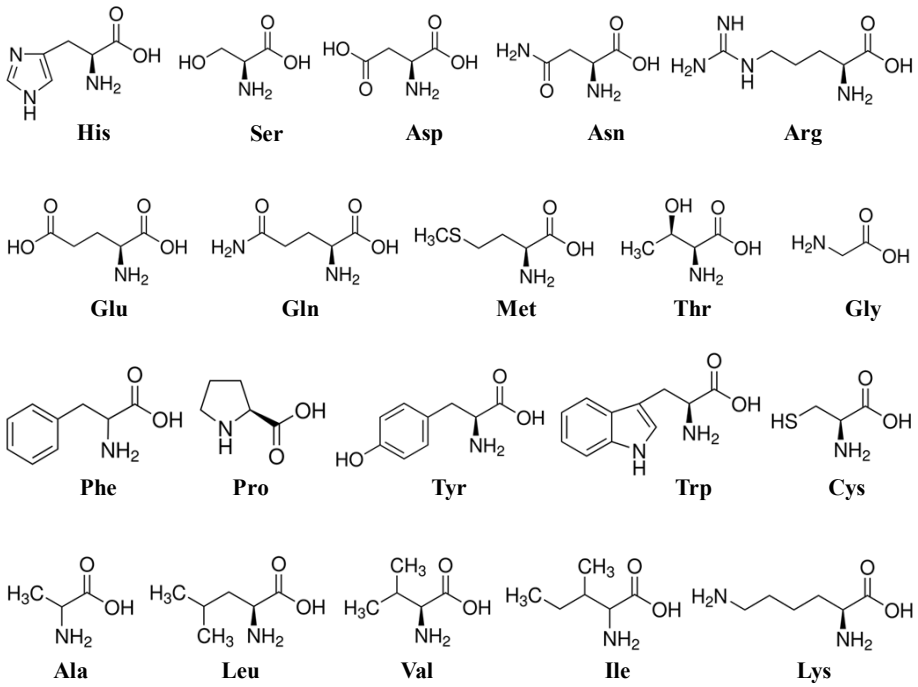

Figure S1. Chemical structures of the 20 natural amino acids and their name abbreviations.

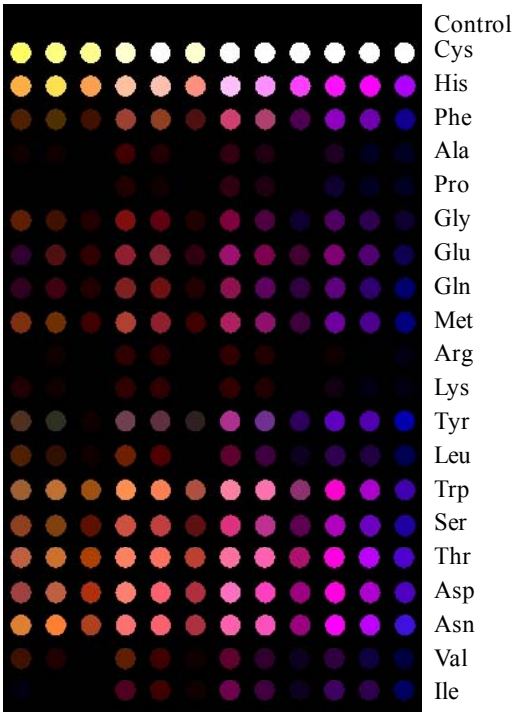

Figure S2. Color difference maps of the array for 20 natural amino acids at 100 μM and a control. For purposes of visualization, the color range of these difference maps was expanded from 4 to 8 bits per color (RGB range of 4-19 expanded to 0-255). A full database of the color differences see Tables S1. All of the experiments were performed in quadruplicate under physiological condition (10 mM HEPES buffer at pH 7.2).

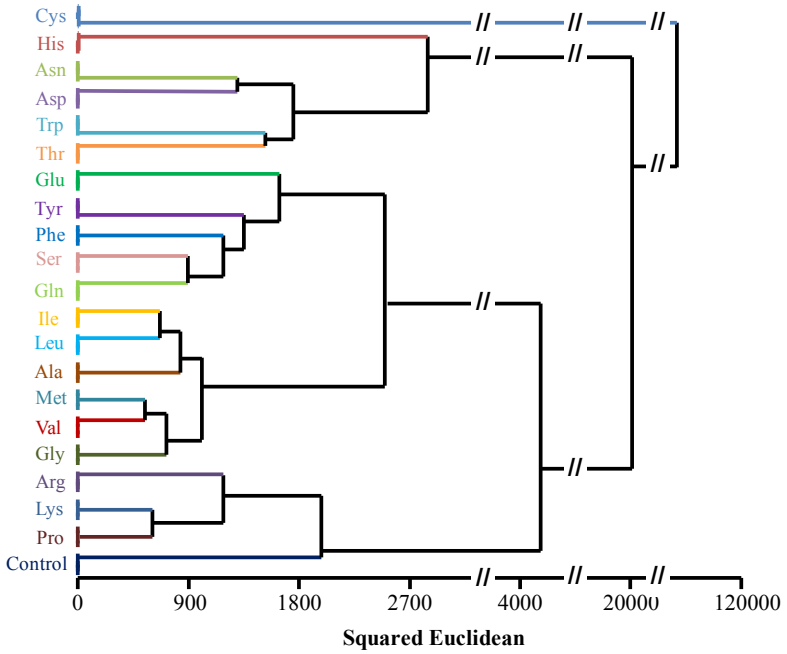

Figure S3. Hierarchical cluster analysis for the 20 natural amino acids at 100 μM and a control; no confusions or errors in classification were observed in 84 experiments. All of the experiments were performed in quadruplicate under physiological condition (10 mM HEPES buffer at pH 7.2).

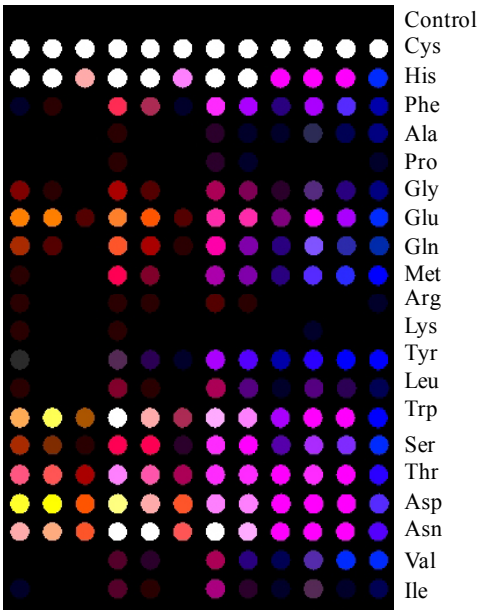

Figure S4. Color difference maps of the array for 20 natural amino acids at 50 μM and a control. For purposes of visualization, the color range of these difference maps was expanded from 3 to 8 bits per color (RGB range of 3-10 expanded to 0-255). A full database of the color differences see Tables S1. All of the experiments were performed in quadruplicate under physiological condition (10 mM HEPES buffer at pH 7.2).

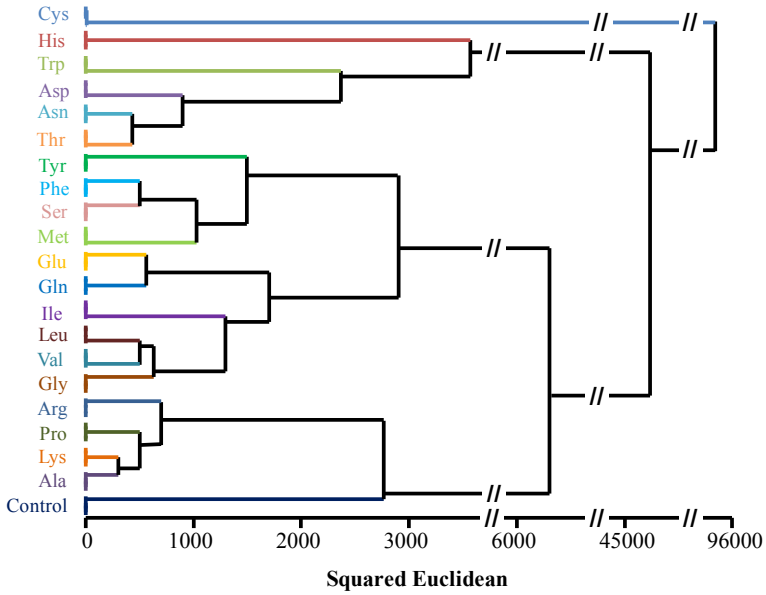

Figure S5. Hierarchical cluster analysis for 20 natural amino acids at 50 μM and a control; no confusions or errors in classification were observed in 84 experiments. All of the experiments were performed in quadruplicate under physiological condition (10 mM HEPES buffer at pH 7.2).

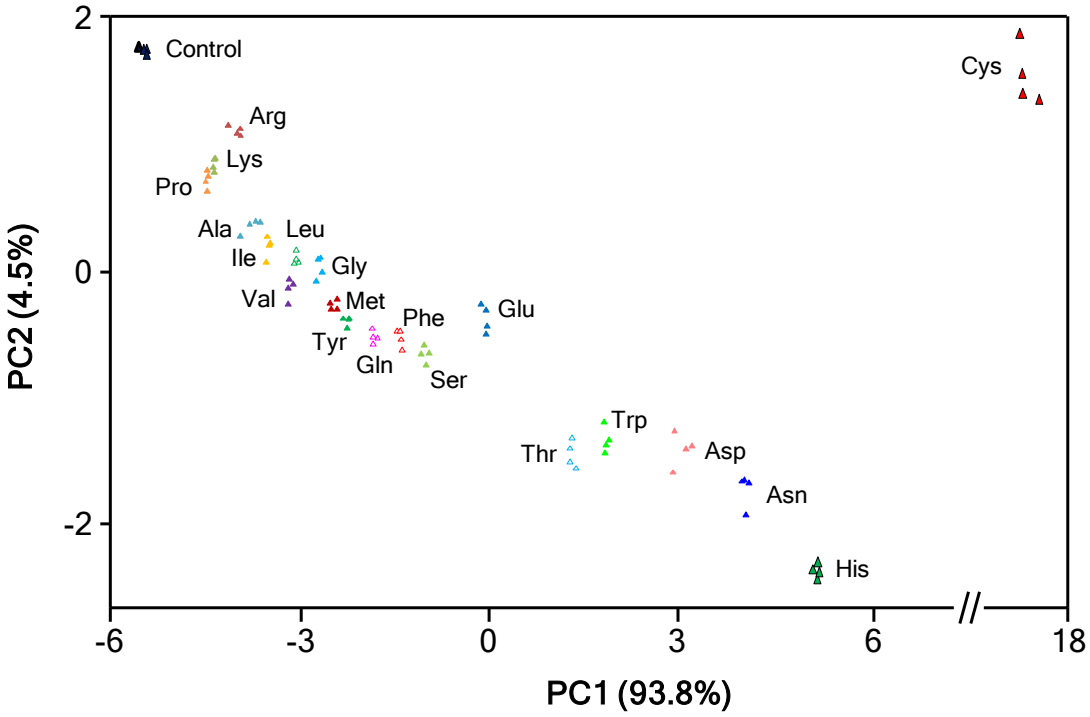

Figure S6. Two-dimensional principal component analysis plot of the array for 20 natural amino acids at 50 μM and a control. All of the experiments were performed in quadruplicate under physiological condition (10 mM HEPES buffer at pH 7.2).

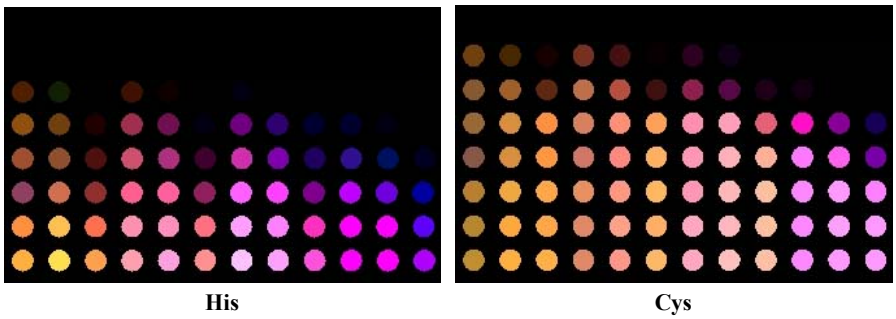

Figure S7. Color difference maps of the array for His and Cys at different concentrations and a control (control, 5, 10, 20, 30, 50, 80 and 100 μM were arranged from top to bottom). For purposes of visualization, the color range of these difference maps of His was expanded from 4 to 8 bits per color (RGB range of 4-19 expanded to 0-255); Cys was expanded from 5 to 8 bits per color (RGB range of 4-35 expanded to 0-255). All of the experiments were performed in quadruplicate under physiological condition (10 mM HEPES buffer at pH 7.2).

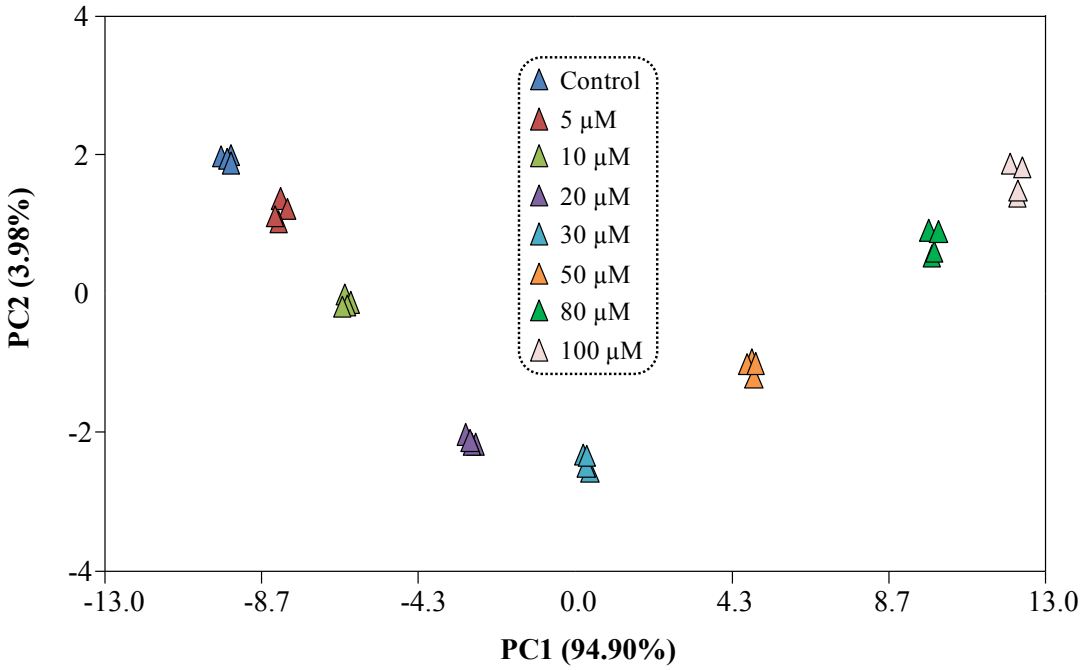

Figure S8 Two-dimensional principal component analysis plot of the developed array for His at different concentrations and a control. All of the experiments were performed in quadruplicate under physiological condition (10 mM HEPES buffer at pH 7.2).

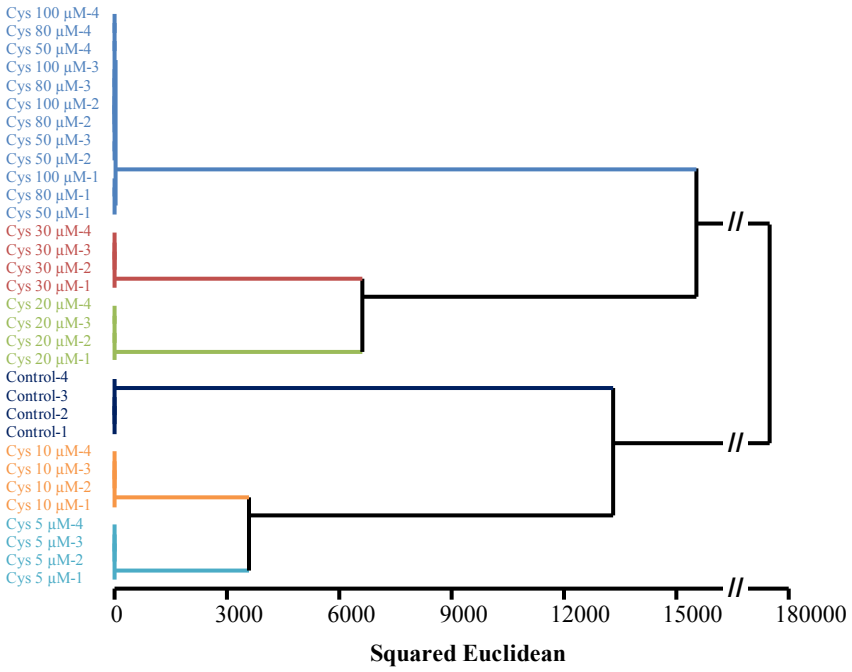

Figure S9. Hierarchical cluster analysis for Cys at different concentrations and a control. All of the experiments were performed in quadruplicate under physiological condition (10 mM HEPES buffer at pH 7.2).

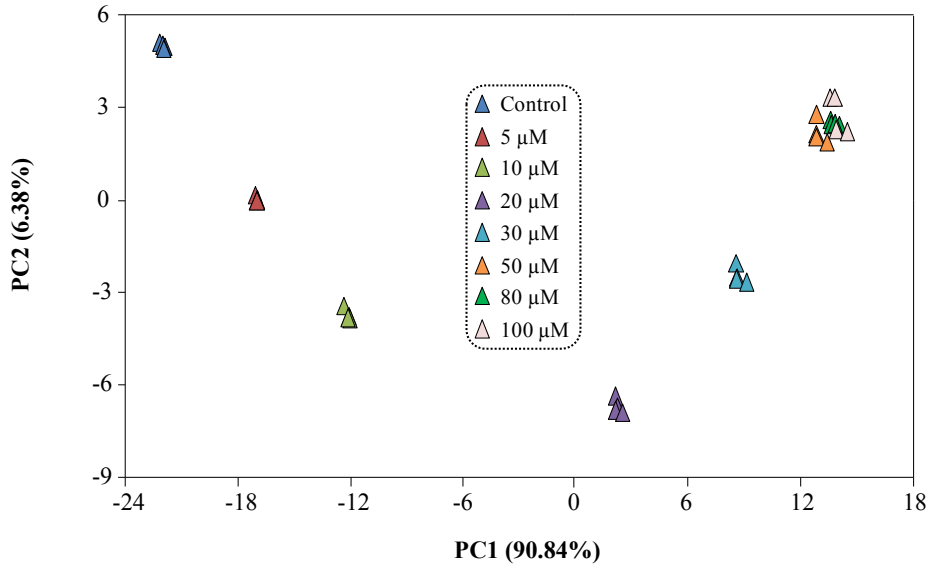

Figure S10. Two-dimensional principal component analysis plot of the developed array for Cys at different concentrations and a control. All of the experiments were performed in quadruplicate under physiological condition (10 mM HEPES buffer at pH 7.2).

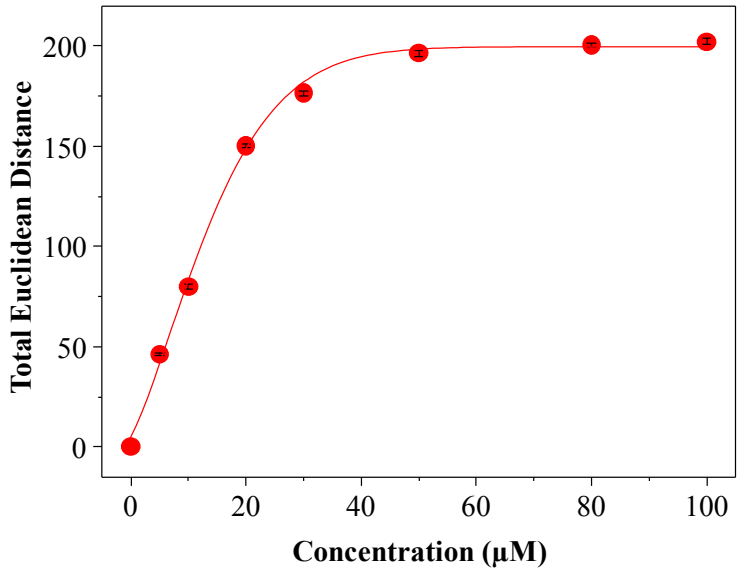

Figure S11. The total Euclidean distances of the array plotted versus different concentrations of Cys. All of the experiments were performed in quadruplicate under physiological condition (10 mM HEPES buffer at pH 7.2); the error bars shown were the standard deviation of quadruplicate experiments.

Table S1. Database for 20 natural amino acids at 50, 100 μM and a control.

	R1	G1	B1	R2	G2	B2	R3	G3	B3	R4	G4	B4	R5	G5	B5	R6	G6	B6
Control-1	-0.980881	-0.585182	-0.066235	0.211678	0.413448	-0.604645	0.622738	0.54114	-0.02902	0.585526	0.87402	0.598499	-0.335268	-0.317173	-0.319904	0.326391	0.18368	-0.032774
Control-2	0.036873	-0.340389	0.313076	-0.189144	-0.252987	-0.593376	0.5746	0.594742	0.540115	-0.566746	-0.504608	0.218502	-0.957664	-0.963127	-0.861389	-0.557871	-0.525776	-0.36941
Control-3	0.299419	0.202457	-0.038921	0.162514	-0.096619	-0.998634	0.280643	0.195288	0.400478	0.223969	0.155342	0.517239	-0.301468	-0.198704	-0.093208	-0.065552	-0.246159	-0.426085
Control-4	1.249573	1.027309	0.544212	0.58416	0.595768	-0.241379	0.247183	0.429499	0.46876	0.13554	0.262547	0.403893	0.719017	1.233868	0.708775	-0.439056	-0.339365	-0.808809
50 μM Gly-	5.634346	3.779449	-0.853535	4.51178	3.458519	-1.342779	3.322636	1.527483	-1.120178	7.335609	3.55275	-2.994537	5.465687	2.717995	-3.420959	3.055992	1.053602	-2.656879
50 μM Gly-	6.133831	3.750771	-1.42506	4.31649	2.889042	-1.482418	3.168318	1.376921	-1.287128	7.783886	3.829636	-3.167294	5.039946	2.308979	-2.865486	3.527483	1.861385	-2.118811
50 μM Gly-	6.385796	4.206215	-1.486172	5.07238	3.861729	-1.281324	3.379652	1.701605	-1.163195	7.86787	3.798225	-3.5606	4.4534	1.766815	-3.978489	3.264595	1.35507	-2.74906
50 μM Gly-	6.092522	3.790371	-1.62991	5.067261	3.339363	-1.874359	3.401844	1.41106	-1.234894	6.872654	2.879139	-4.004097	4.870262	1.944008	-3.336975	3.438034	1.346535	-2.617277
50 μM Ala-	3.928303	1.958687	-2.747696	2.998291	1.483101	-2.153296	1.264595	0.218164	-1.738819	4.106861	1.743256	-3.655174	3.937521	1.834759	-3.400818	2.186413	0.721066	-1.53602
50 μM Ala-	3.759304	2.711506	-2.471836	3.195629	1.647659	-1.78969	2.122908	1.209627	-1.015364	5.383408	2.756912	-3.433594	4.136564	2.030045	-3.344143	2.590647	1.023216	-1.337999
50 μM Ala-	4.023216	2.75555	-1.854561	2.745647	1.570503	-1.562309	1.874359	0.993513	-1.288494	5.495731	3.338341	-2.924206	4.464664	2.602936	-2.437347	2.371117	0.908501	-1.253328
50 μM Ala-	3.815296	1.750771	-2.526115	2.16217	0.94025	-2.549335	1.782862	0.653807	-1.621031	4.906796	1.827927	-3.87402	3.037212	0.628883	-3.852165	2.01195	0.164219	-2.068624
50 μM Val-	4.054287	1.639126	-2.762035	3.062817	2.031754	-1.419939	2.573574	1.163197	-1.168318	5.479687	3.079891	-3.79174	3.844656	1.429497	-4.076138	2.911575	0.892796	-2.109934
50 μM Val-	3.541142	1.377945	-3.044044	3.135544	1.59235	-2.337999	2.428474	0.974394	-1.138271	5.553772	2.834415	-3.7337	4.785933	1.744965	-3.888699	2.91806	0.709457	-2.229431
50 μM Val-	3.717312	1.43462	-2.90884	3.30386	2.172756	-1.833389	2.485149	0.896893	-1.170025	5.163536	1.961422	-4.585526	4.768862	2.290886	-4.088768	3.028679	0.967907	-1.975418
50 μM Val-	3.788666	1.139297	-3.743599	2.985321	1.699215	-2.609083	2.271765	0.662001	-1.71526	6.994881	3.050529	-3.880848	4.658928	1.752476	-4.007851	2.493	0.196312	-3.186413
50 μM Leu-	3.854561	2.267326	-3.629906	2.798904	1.860363	-2.546602	2.525434	1.312735	-1.574259	6.502899	2.822807	-4.150906	4.56538	2.165241	-4.227379	3.488905	1.693752	-2.282349
50 μM Leu-	4.310345	2.345169	-3.354042	3.204506	1.718334	-2.61898	2.703995	1.398769	-1.388187	6.911232	2.944008	-4.31171	4.798908	2.346874	-3.931374	2.815294	0.974735	-2.901331
50 μM Leu-	4.263229	1.852509	-3.373505	3.469784	2.220554	-2.566065	2.374872	1.130421	-1.779789	7.26767	3.272106	-4.245815	5.061111	2.893478	-3.58416	3.235575	1.344486	-2.309662
50 μM Leu-	4.150223	1.630932	-3.572208	3.405602	2.255379	-2.81905	2.160807	0.973711	-1.907478	6.48003	3.247524	-4.312393	4.514168	1.974052	-4.056675	2.765448	1.212019	-2.704678
50 μM Ile-1	1.641518	-0.650734	-4.809151	2.922157	0.877434	-2.867531	2.268692	0.869579	-1.766474	4.698193	1.563675	-5.182999	4.61079	1.811878	-3.576988	2.696825	0.628883	-2.620008
50 μM Ile-2	1.919426	-0.231819	-4.639809	2.780813	0.841927	-2.687948	1.854559	0.582792	-1.911232	5.669853	2.624786	-4.214748	4.223286	1.878113	-3.935471	2.72687	0.872652	-2.076136
50 μM Ile-3	2.341072	0.33083	-4.443153	2.60601	0.967224	-2.991806	2.296688	1.044384	-1.861385	4.933083	1.996929	-4.596107	4.697847	2.406963	-3.260159	2.643906	0.812906	-2.351656
50 μM Ile-4	3.130077	0.404915	-4.741211	2.770912	0.764767	-3.220894	1.953909	0.639467	-2.055992	5.530556	2.006485	-4.508366	3.654148	0.804367	-4.395016	2.713896	0.735064	-3.159439
50 μM Gln-	6.845341	3.601227	-2.822464	5.068283	2.974052	-3.138617	4.001707	1.834414	-1.770229	7.47081	3.571869	-5.429497	7.059406	3.640491	-4.899281	4.69068	1.623421	-2.57255
50 μM Gln-	7.199047	4.675316	-2.834759	5.441105	3.195629	-2.660976	4.213726	2.172754	-1.534996	9.372822	4.148514	-5.023216	6.720041	3.618641	-5.441792	4.705019	1.641516	-2.665415
50 μM Gln-	7.844315	4.653126	-2.905773	5.202801	3.521	-2.64698	3.803688	1.756231	-1.691021	9.54285	5.168999	-4.04541	7.319561	3.847389	-3.939228	4.850119	1.99044	-2.486174
50 μM Gln-	8.862068	4.512459	-2.774666	4.819736	2.678047	-3.373505	3.635712	1.338682	-2.006487	9.429497	3.796177	-5.416866	6.606689	2.844315	-5.157391	4.167635	0.818708	-3.608057
50 μM Met-	4.151585	1.675659	-3.331512	2.996588	1.199383	-3.14749	3.469103	1.443838	-1.792421	7.910892	3.331512	-4.303177	6.42745	2.143738	-4.170704	3.911575	1.196314	-3.111984
50 μM Met-	4.697506	2.463299	-3.738476	3.615908	1.904743	-3.21509	3.370434	1.51963	-2.036873	8.11779	3.696484	-5.08979	6.261864	2.184025	-4.791737	3.59679	1.223967	-3.401503
50 μM Met-	5.32093	2.80608	-3.241718	3.851826	2.201092	-2.855242	3.739841	1.576307	-1.896553	8.410038	3.967224	-4.395355	6.517242	2.32605	-4.267666	4.077843	1.177193	-3.178558
50 μM Met-	5.590988	2.716286	-3.141346	4.051212	2.230793	-2.729601	3.583475	1.427792	-1.700239	7.654148	3.138958	-4.500851	6.591671	2.300446	-3.932739	3.290884	0.744965	-3.329805
50 μM Ser-	6.898258	3.908844	-3.457153	6.46603	4.687607	-2.223967	4.679071	2.125982	-1.531921	8.935131	4.393993	-4.709457	8.006489	3.442471	-4.251278	5.337999	2.526117	-3.500511
50 μM Ser-	7.214066	4.086033	-3.59679	6.502218	4.012291	-3.081596	4.53636	1.905087	-2.275179	9.674633	4.713894	-4.811199	8.335609	3.970638	-4.848072	5.075453	2.199043	-3.913622
50 μM Ser-	7.161488	4.128712	-3.861725	6.259132	4.037899	-3.114714	4.747011	2.119493	-2.039604	8.66917	3.830658	-5.556503	8.050529	2.905769	-5.236599	4.789688	1.994537	-4.095596
50 μM Ser-	7.165245	3.68351	-4.53056	5.87402	2.875725	-4.053944	4.713213	1.861385	-2.306248	10.241039	5.027657	-5.097301	8.451347	3.204849	-5.296349	5.23933	1.778082	-4.378969
50 μM Thr-	10.249229	6.263569	-4.764767	9.247868	5.818027	-5.503584	7.065208	3.617958	-3.204847	13.085014	6.302834	-7.864456	12.267328	5.522018	-7.462616	7.772278	3.470469	-5.353704
50 μM Thr-	9.2803	5.20314	-6.331512	8.633322	5.328781	-5.936155	7.043701	3.489244	-3.489244	13.324341	6.500511	-8.16695	11.996244	5.121201	-7.980541	7.693069	3.486174	-5.824171
50 μM Thr-	9.399796	4.859337	-6.473881	9.826563	6.044727	-5.733356	7.42267	3.457836	-3.839878	13.171047	6.414135	-8.297371	12.310343	5.178558	-8.11301	7.74394	3.226357	-6.02424
50 μM Thr-	9.644588	4.854214	-7.346195	9.169682	4.744282	-6.697508	6.824512	2.939569	-4.215433	13.10857	6.44725	-8.466709	12.308638	5.05872	-8.273472	7.566404	2.942986	-6.494709
50 μM Phe-	3.518951	2.349949	-4.816319	4.181973	3.403553	-3.775009	3.718674	2.43701	-2.025948	7.978493	4.57972	-5.835781	7.09901	4.09457	-5.334927	3.629225	2.025265	-4.147148
50 μM Phe-	3.175827	1.443153	-5.942642	4.186752	3.440765	-4.256062	4.02424	2.457836	-2.133492	7.423351	3.655174	-6.998978	7.341072	4.476273	-5.599861	4.136225	2.650734	-3.475588
50 μM Phe-	3.417269	1.753841	-6.044044	4.337315	3.246841	-4.385798	4.100376	2.52919	-2.304201	8.5886	5.048481	-5.576988	7.399796	4.358486	-5.269032	4.056334	2.576649	-3.551041
50 μM Phe-	3.607716	2.28986	-6.141685	4.640152	3.085011	-4.653465	3.901672	2.306931	-2.60157	8.880848	5.223965	-6.365311	7.272106	4.522362	-5.582455	3.825878	2.298395	-4.097984
50 μM Glu-	8.779106	5.853535	-2.034824	7.626837	5.91806	-2.237282	6.381699	4.613178	-0.522364	11.051556	6.014683	-4.397747	9.487196	4.549335	-4.391602	5.38887	3.126665	-2.793787
50 μM Glu-	8.505291	6.124615	-1.681461	7.678389	6.299419	-1.965858	5.942984	4.100033	-1.326391	12.554455	7.786961	-3.205189	8.756571	4.062481	-5.023216	5.735064	3.463297	-2.54558
50 μM Glu-	9.353706	6.608742	-1.663025	8.048141	6.608059	-2.016388	6.01195	3.849777	-1.377945	11.396038	6.423695	-4.432915	10.258108	5.464321	-3.882896	5.808809	3.377262	-2.356434
50 μM Glu-	9.618301	6.721748	-2.145439	8.144419	6.382385	-2.212019	5.908501	3.906796	-1.228065	11.156712	6.155342	-5.08057	9.605326	4.902699	-4.489243	5.769545	3.202459	-3.022875
50 μM Trp-	10.133835	6.689655	-6.340389	9.831684	8.061451	-4.972004	7.373507	5.096621	-3.976442	13.675316	8.121887	-8.489586	12.093548	8.128372	-7.724819	7.32127	5.104132	-5.247524
50 μM Trp-	11.050529	7.568111	-5.907475	10.024921	8.193241	-5.312052	7.285763	5.198704	-3.897575	14.890408	9.537045	-8.085697	12.467394	7.996243	-7.803349	7.08194	4.732672	-5.716627
50 μM Trp-	11.184021	7.361897	-6.124619	10.329805	8.278252	-5.114716	7.542164	5.2465	-4.050528	14.520657	8.603962	-8.355412	12.695116	7.664734	-7.943668	7.434277	5.101742	-5.64254
50 μM Trp-	11.184704	7.445202	-6.398087	9.955959	7.514851	-5.877092	7.149199	4.847731	-4.332878	14.423012	8.764084	-8.542847	12.730282	7.576649	-7.72414	7.488564	4.753159	-5.8071
50 μM Asp-	13.942982	9.018776	-4.510757	11.832367	7.547966	-4.456469	9.607374	5.476954	-2.957323	16.036533	8.409355	-7.128033	14.658587	7.660294	-7.141344	9.351656	5.409355	-4.488562
50 μM Asp-	13.966881	9.332878	-4.773304	12.958008	9.080574	-4.10379	9.407988	5.135881	-3.563332	17.272449	9.729259	-6.818024	15.583134	8.07238	-6.581768	9.347559	5.233185	-4.651417
50 μM Asp-	14.586548	9.889721	-4.203823	13.300442	9.179585	-3.92284	9.658245	5.460907	-3.016729	17.001022	9.476616	-6.740528	15.188118	7.660294	-7.139637	9.519289	5.517241	-4.46603
50 μM Asp-	14.217136	10.11335	-4.504608	12.947079	8.360874	-4.389553	9.621033	5.132128	-3.205191	16.487198	8.686241	-7.809834	15.110958	7.269718	-7.350292	8.949129	4.189486	-5.501194
50 μM Asn-	10.324341	5.254356	-8.87709	13.148514	8.491634	-6.359165	10.910549	6.326733	-4.105497	16.944691	9.24855	-9.239674	16.543188	8.232845	-8.47559	11.269716	6.186071	-5.486513
50 μM Asn-	12.196655	6.857971	-7.245136	12.620691	8.298393	-6.159098	10.886648	6.003757	-4.352339	17.426083	10.210312	-9.1987	17.034826	8.806419	-8.379993	10.615227	4.880848	-6.677364
50 μM Asn-	12.143394	7.327076	-7.37487	12.240696	7.857292	-6.482758	10.826563	5.907478	-4.520996	16.895187	9.52578	-9.506996	16.561285	8.792419	-8.271084	11.081938	5.721746	-5.941618
50 μM Asn-	12.415161	7.521339	-8.049507	12.678391	7.595764	-6.964151	10.47081	5.465347	-4.639126	17.349266	9.905769	-9.621033	16.808125	8.310001	-8.996586	11.265621	5.340391	-6.650734
50 μM Pro-	1.252644	-0.008533	-3.110619	2.651417	2.55275	-0.715603	1.478319	0.616936	-1.061113	4.358482	2.639126	-2.058041	2.826221	1.857975	-2.152271	1.378286	0.499147	-1.762377
50 μM Pro-	2.107544	0.990097	-2.049847	2.287468	1.943325	-1.140322	1.834074	1.093889	-0.551725	3.88665	2.088425	-2.218506	3.217138	2.134518	-1.819733	0.951178	-0.291569	-2.348583
50 μM Pro-	2.215088	1.321953	-1.657223	1.897232	1.721405	-1.349266	1.814611	1.054966	-0.530214	3.552746	1.789688	-2.839878	2.567768	1.379993	-2.2803	1.61113	0.856264	-1.454422
50 μM Pro-	2.513485	1.668488	-1.779102	1.738136	1.508362	-1.504267	1.674633	0.808468	-0.841585	3.960056	2.386478	-1.994194	2.721746	1.240353	-2.451691	1.373165	0.472517	-1.507683
50 μM Arg-	5.004436	3.662342	0.782177	3.096962	2.312737	-0.703312	3.810514	1.993855	-0.43257	5.211678	3.257084	-1.106522	3.823147	1.96347	-1.093891	2.881529	1.739161	-0.728235
50 μM Arg-	4.650051	3.696823	0.550358	3.797882	3.297371	-0.227722	3.802664	2.063845	-0.32605	4.416866	2.74155	-1.205189	4.269714	2.16217	-1.310684	2.702629	1.542507	-1.018095
50 μM Arg-	4.335949	3.219868	0.792423	4.19836	3.895527	0.421988	3.801298	2.161489	0.041309	4.744965	3.331852	-0.500168	4.133152	2.409695	-0.782864	2.744965	1.519974	-0.872654
50 μM Arg-	3.666782	2.880505	-0.024921	3.318878	2.515877	-0.442814	3.708433	1.737452	-0.413452	3.922501	2.36224	-1.37487	3.471493	1.614544	-1.458519	2.767838	1.416864	-0.941959
50 μM Lys-	4.544556	2.273132	-0.764767	2.708092	1.390575	-0.875042	1.776375	0.498121	-0.908501	4.206558	1.686581	-1.825539	4.021851	1.259132	-1.612156	2.338682	0.977467	-0.602594
50 μM Lys-	4.31205	2.401844	-0.754181	3.129738	2.185726	-1.139297	1.911573	0.48583	-1.234209	4.404575	2.091156	-1.806076	3.708433	1.342777	-1.743938	1.836121	0.482759	-1.095938
50 μM Lys-	4.103447	2.489929	-1.087402	3.538067	2.499828	-1.066917	2.015705	0.641174	-1.13076	3.768864	1.553772	-2.155342	3.276884	0.566063	-2.555824	1.678389	0.369068	-0.965176
50 μM Lys-	3.852848	2.389553	-1.123592	3.202801	1.689995	-1.414474	1.597815	0.166952	-1.506998	3.708775	1.645611	-2.187096	3.444862	0.664391	-2.116764	1.747013	0.28508	-1.35507
50 μM Tyr-	2.586548	2.925228	-5.02663	1.842609	3.681801	-3.682144	1.054626	2.03653	-2.460226	3.969273	3.842609	-5.809151	4.064186	4.439739	-4.785934	2.601231	3.733013	-4.052237
50 μM Tyr-	4.030045	4.613518	-4.281326	1.955959	4.044724	-3.750086	1.737453	2.500511	-2.344145	5.118813	4.459202	-5.946056	3.979515	3.942642	-5.170025	2.861385	3.498463	-4.312393
50 μM Tyr-	3.762718	4.41243	-4.355751	2.603619	4.42028	-3.277569	1.677706	2.572208	-2.294981	5.315125	5.07238	-5.370777	3.789688	4.113693	-5.010925	2.641857	3.404234	-4.527485
50 μM Tyr-	4.226357	4.471149	-4.556847	3.119152	4.638443	-3.008535	2.027996	2.61591	-2.306931	6.288494	5.304882	-5.63298	4.431206	4.16217	-5.129395	2.660976	3.274839	-4.617275
50 μM Cys-	26.448959	20.06316	-11.37931	34.396721	24.950836	-12.89997	37.619667	24.617956	-12.46091	30.602936	20.180611	-17.48037	37.022877	23.138615	-20.19768	41.687946	26.559916	-16.62786
50 μM Cys-	27.301128	20.94981	-10.84056	34.370434	25.063847	-12.42404	38.564018	25.044382	-13.05633	33.479343	22.432575	-16.93889	37.645271	23.335949	-20.75213	42.842266	27.076477	-16.62854
50 μM Cys-	27.611469	21.187439	-10.83134	35.013317	25.818027	-12.0956	39.448616	25.582453	-13.01707	33.285419	22.672585	-16.20758	38.227379	23.563332	-20.47559	42.662003	26.730965	-16.662
50 μM Cys-	28.260841	21.214066	-11.69375	35.038578	25.311028	-13.12325	39.96347	26.03414	-12.02322	35.389557	24.360874	-14.56163	40.959713	26.444183	-16.73028	43.821442	27.451349	-16.89894
50 μM His-	14.026974	8.100716	-10.17719	17.02424	11.272446	-9.873335	13.91021	7.882212	-6.759986	20.559235	11.474567	-12.49129	20.66678	11.373505	-13.75111	14.196312	7.535336	-10.20553
50 μM His-	8.45647	5.640835	-9.095592	17.073063	11.540455	-9.64254	13.645269	7.32366	-7.385798	20.740868	11.34824	-13.68146	20.856607	10.94981	-14.55924	14.214409	7.28269	-10.43325
50 μM His-	14.052235	8.264935	-10.38341	17.175146	11.589622	-9.480028	13.822123	7.315809	-7.819393	20.245815	10.911232	-14.07955	20.978489	10.442131	-14.87129	14.008535	7.052237	-10.60908
50 μM His-	13.843292	8.325027	-10.40082	17.677364	11.622398	-9.645954	14.055309	7.179924	-7.901331	19.649708	10.461933	-14.54694	20.739161	9.861385	-15.01229	14.734039	7.155684	-10.8129

	R7	G7	B7	R8	G8	B8	R9	G9	B9	R10	G10	B10	R11	G11	B11	R12	G12	B12
Control-1	0.227722	-0.177876	-0.242401	-0.262547	-0.170364	-0.013313	0.091498	-0.111301	-0.243084	0.089791	0.410034	0.335609	0.107545	0.10413	0.09901	0.250256	0.479687	0.739159
Control-2	-0.479004	-0.928303	-0.14032	-0.3141	-0.131104	0.43906	-0.321611	-0.288496	-0.285423	-0.288836	0.019119	0.555473	-0.096278	-0.114716	-0.107204	0.032434	0.426085	0.86924
Control-3	-0.599863	-1.304882	-0.40287	-0.096279	-0.150902	0.04575	0.201776	0.030045	-0.095596	-0.073403	-0.032772	0.355759	0.034824	-0.005123	0.090477	0.288836	0.404234	0.738819
Control-4	-0.694777	-1.029362	-1.05394	-0.818026	-0.776375	-0.730282	0.303858	0.604984	0.71936	0.033459	0.488564	0.685905	-0.156709	-0.044041	-0.285419	-0.031751	0.102081	0.305222
50 µM Gly-	7.144075	2.23933	-5.793446	5.895527	1.44725	-6.020824	4.243087	0.27006	-4.19051	5.843291	-4.058723	-6.594059	4.359508	-3.748379	-6.44725	2.276203	-3.414133	-6.522705
50 µM Gly-	7.497099	2.85046	-5.63776	6.046091	1.856266	-5.281326	4.103107	0.231819	-4.767494	5.718334	-4.23489	-6.910549	4.349267	-3.736431	-6.317173	2.564356	-3.254013	-6.324345
50 µM Gly-	7.080233	2.423351	-5.872311	5.614887	1.443497	-5.599865	3.904063	-0.050188	-5.372482	5.249914	-4.119839	-7.218163	4.160465	-4.028679	-7.266304	2.175486	-3.845341	-7.377602
50 µM Gly-	6.930012	1.746326	-6.263573	5.61113	1.392624	-5.852512	3.553431	-0.478321	-5.892117	5.261865	-4.316494	-7.267666	4.074428	-4.455444	-7.219528	2.078184	-4.412428	-7.969955
50 µM Ala-	4.953228	1.653809	-4.328781	3.63776	0.859337	-5.092865	2.809151	0.36702	-4.257427	4.551042	-4.358482	-5.761353	3.130762	-3.03175	-5.410378	1.53875	-3.845341	-6.458858
50 µM Ala-	5.514168	1.840904	-4.71936	3.835781	0.89621	-5.068626	2.957664	0.35268	-4.046772	4.772618	-3.950497	-5.3438	3.233526	-2.830318	-4.479343	1.535336	-3.838854	-5.884941
50 µM Ala-	6.054285	1.849777	-4.781837	3.850462	1.046772	-4.279278	2.799932	0.263573	-3.815296	4.56777	-4.192219	-5.71151	3.167634	-2.896893	-4.134178	1.389894	-3.736429	-5.420959
50 µM Ala-	5.530558	0.692043	-5.103107	3.827585	0.70536	-4.848072	2.650393	-0.155342	-4.194607	4.167293	-4.433598	-5.278255	2.858655	-3.52578	-5.314785	1.263571	-3.976101	-6.097645
50 µM Val-	6.678389	1.06282	-6.799591	4.708092	0.627518	-6.970978	3.195289	0.019802	-5.650051	5.725845	-5.158073	-7.94162	4.034142	-3.672924	-7.840561	1.762035	-4.15193	-7.708775
50 µM Val-	6.599524	1.512802	-6.534996	4.782179	1.105499	-5.911915	3.09423	-0.116079	-5.47081	5.147491	-5.803005	-8.091503	3.648003	-4.434277	-7.734722	1.385114	-4.681803	-8.354389
50 µM Val-	7.431206	2.556164	-5.674633	4.80471	1.065891	-6.354385	2.958347	-0.327415	-5.726189	5.52646	-4.94503	-7.121204	3.557528	-4.857288	-8.201775	1.674974	-4.306931	-8.107204
50 µM Val-	6.732332	0.71526	-6.950497	4.369751	0.275177	-6.790714	2.748379	-0.667122	-5.791395	5.313759	-5.455105	-7.809151	3.709798	-4.406281	-7.791737	1.630591	-4.469103	-7.539433
50 µM Leu-	7.508024	1.685558	-5.696823	5.017071	1.249912	-5.771938	3.629908	0.510412	-4.62035	5.751451	-3.989758	-5.982246	4.143052	-3.097305	-5.653465	1.845681	-3.762035	-5.889038
50 µM Leu-	7.65517	1.505978	-5.838512	5.010584	1.439056	-6.028336	3.535678	0.511438	-4.640835	5.700582	-3.872311	-6.109592	4.09901	-3.279274	-5.184704	1.787299	-3.885626	-5.79208
50 µM Leu-	7.633661	1.540115	-5.875385	4.99522	1.240696	-5.91806	3.494708	0.388529	-4.920452	5.633321	-4.048481	-6.065208	4.050871	-3.008877	-5.138271	1.762718	-3.957666	-5.942299
50 µM Leu-	7.334244	1.499146	-6.116425	4.951519	1.235577	-6.078526	2.993513	0.017071	-5.424377	5.445886	-4.085693	-5.805737	3.753841	-3.04097	-5.5606	1.333561	-4.274155	-6.264935
50 µM Ile-1	6.952202	0.82349	-5.667805	4.927622	1.360535	-4.832706	3.580403	0.446911	-4.277912	5.36463	-4.314442	-5.745304	3.339365	-3.51656	-5.831345	1.67395	-3.779787	-6.23967
50 µM Ile-2	7.026972	1.09116	-5.931717	4.920792	1.358486	-4.895187	3.56026	0.411743	-4.231819	5.290201	-3.998634	-5.421642	3.525094	-2.930691	-4.292248	1.643906	-3.521339	-5.379311
50 µM Ile-3	7.0676	0.972004	-6.420963	4.990099	1.448277	-5.172417	3.281324	0.279619	-4.520996	5.337659	-3.843632	-5.317856	3.333902	-3.245815	-5.031071	1.608057	-3.610106	-5.153297
50 µM Ile-4	6.245476	0.086376	-7.344486	4.696484	0.794468	-5.685558	3.154319	-0.051554	-4.753841	4.846023	-4.404915	-5.573574	3.284739	-3.427109	-5.875042	1.488904	-3.734039	-5.919426
50 µM Gln-	9.24889	3.094231	-7.093887	6.739161	2.18129	-7.036869	4.562308	0.433594	-6.056332	7.159439	-4.624104	-8.322636	5.083988	-4.694435	-7.926254	2.315466	-4.66678	-8.238308
50 µM Gln-	9.52953	2.883579	-7.160805	6.927279	1.95937	-7.355412	4.27552	0.046431	-6.376579	6.88665	-5.191875	-8.849781	5.119153	-4.461933	-7.740528	2.423694	-4.64732	-7.598156
50 µM Gln-	9.514509	2.147831	-7.426769	6.678389	1.850464	-7.366337	4.310345	0.21236	-6.220211	6.831001	-5.207577	-8.763741	4.793445	-4.528507	-7.181973	2.241379	-4.672585	-7.445202
50 µM Gln-	9.233528	1.590302	-7.619663	6.395357	1.254696	-7.793102	4.095255	-0.248207	-6.60191	6.566064	-5.398087	-8.159435	4.622055	-5.01263	-8.177532	1.916695	-5.017071	-8.116081
50 µM Met-	7.353363	1.437012	-7.32127	6.232845	1.26152	-6.939571	4.640151	-0.100033	-5.86207	6.178218	-4.476955	-7.641514	3.884602	-5.630592	-8.334244	2.600546	-3.961761	-7.753159
50 µM Met-	7.501196	1.504269	-8.121204	6.060429	1.217484	-7.440765	4.627176	-0.086037	-6.271765	5.758279	-4.43906	-8.743599	4.589279	-4.358141	-8.157734	2.623079	-3.764425	-8.14954
50 µM Met-	8.101059	2.218845	-6.786957	6.123934	1.112667	-7.246502	4.497439	-0.056675	-5.933083	5.701945	-4.589279	-8.155685	4.275862	-5.080572	-8.604641	2.230113	-4.434618	-8.527485
50 µM Met-	7.363605	1.551384	-6.989075	5.905088	0.745647	-7.095596	4.081597	-0.076375	-6.327415	5.437692	-5.73711	-8.377605	4.428133	-5.042336	-8.172413	2.077501	-4.907818	-8.425404
50 µM Ser-	10.443497	3.154659	-8.696144	8.048481	2.108913	-8.269375	5.707408	0.043701	-6.975761	8.150905	-4.42028	-10.75931	6.573916	-4.151245	-9.31171	3.058723	-4.346193	-9.202797
50 µM Ser-	10.786276	3.632298	-8.562309	8.206213	2.305565	-8.170364	5.96859	-0.090475	-7.061796	7.683509	-4.531242	-10.29498	6.377262	-4.327076	-9.75111	3.201434	-4.204847	-9.152271
50 µM Ser-	11.246161	4.394333	-7.960739	8.13998	2.181633	-8.428474	5.522704	-0.111984	-7.130421	7.489246	-4.244793	-9.62854	6.018095	-4.605328	-10.01502	3.006828	-4.135199	-9.300446
50 µM Ser-	11.679756	4.00478	-8.425743	8.42984	2.250599	-8.510754	5.43735	-0.599863	-7.580402	7.73916	-4.734383	-10.51997	5.733015	-4.948448	-9.982586	2.778764	-4.645954	-9.563675
50 µM Thr-	14.452717	5.062477	-10.76511	11.678389	3.716286	-11.20553	8.060431	0.601912	-9.748379	10.735404	-4.592693	-12.65825	9.022192	-3.800957	-11.70024	4.547627	-3.864801	-10.74462
50 µM Thr-	14.512461	4.429836	-11.71287	11.935814	4.191875	-11.25674	8.166952	0.860703	-9.810856	10.701604	-4.212357	-12.87709	8.394674	-3.826904	-11.57631	4.218846	-3.622396	-10.50768
50 µM Thr-	14.800274	4.912258	-11.38921	11.893822	4.092522	-11.31274	7.919427	0.682144	-10.02526	10.606691	-4.446911	-12.7197	8.384773	-4.585524	-13.07853	4.041652	-4.1789	-11.18402
50 µM Thr-	14.150904	3.985317	-12.41755	11.322294	2.939228	-12.21748	7.862411	0.271084	-10.60191	10.406281	-5.140324	-13.79788	8.299078	-4.8846	-13.14442	4.02424	-4.74189	-12.15466
50 µM Phe-	9.581429	4.383747	-8.522705	7.338682	3.350292	-8.290882	4.840219	1.031069	-6.965858	7.247866	-3.574257	-10.80642	5.363605	-4.166954	-9.603279	2.719699	-3.000683	-7.700581
50 µM Phe-	9.259474	4.305908	-8.873337	7.281668	3.546604	-8.31683	4.914306	1.236599	-6.715261	6.815637	-3.365654	-10.2523	5.766132	-3.80027	-9.988392	2.6183	-3.560261	-8.50256
50 µM Phe-	9.572552	4.12632	-8.693752	7.644247	3.92762	-8.199726	4.738819	1.052578	-6.931032	6.525777	-3.588253	-10.15398	5.669853	-3.562649	-9.417549	2.32844	-3.972345	-8.670876
50 µM Phe-	9.358484	3.450665	-9.274837	7.39365	3.626492	-8.695461	4.59918	0.768522	-7.204165	6.998633	-3.229427	-10.12462	5.448958	-3.991467	-9.65995	1.958006	-4.581085	-9.163879
50 µM Glu-	11.114372	4.221237	-7.896893	9.587914	3.899281	-7.390915	6.733697	1.550016	-5.682146	9.305906	-2.99556	-10.19256	8.421305	-2.903378	-9.520313	4.174121	-3.818369	-9.747009
50 µM Glu-	11.793106	4.657223	-7.813591	9.864799	4.952885	-7.162514	6.38887	1.209629	-6.50495	9.317172	-3.03141	-9.944008	8.045408	-3.028681	-9.631958	4.278935	-3.152271	-9.343803
50 µM Glu-	11.812225	4.31171	-7.937523	9.389212	4.122227	-7.664391	6.612495	1.501196	-6.124617	9.240355	-2.726868	-9.951859	8.013998	-3.481394	-10.2687	3.783203	-4.360533	-9.920109
50 µM Glu-	11.621374	4.355412	-8.464664	9.17617	3.878113	-8.118469	6.247866	1.1014	-6.713894	9.198703	-3.20826	-10.36497	7.96859	-3.383408	-10.01229	4.080232	-3.805052	-9.708092
50 µM Trp-	14.590303	7.647663	-11.00034	11.514853	5.906452	-12.30796	7.51895	3.281666	-8.512802	10.686924	-0.858654	-12.5111	8.558893	-1.897232	-11.36292	3.758621	-3.362921	-10.43393
50 µM Trp-	14.69273	7.358143	-11.43052	11.952885	6.554455	-12.13725	7.093548	2.715261	-9.245136	10.588597	-0.661999	-12.42267	8.18607	-2.13076	-11.15739	3.617617	-3.021168	-9.946396
50 µM Trp-	14.470808	6.898941	-11.52202	12.193924	6.76033	-11.78184	7.385455	2.837828	-9.019461	10.487881	-1.424377	-12.33459	7.919768	-2.252645	-11.10038	3.265961	-3.526117	-9.989758
50 µM Trp-	14.421988	6.416866	-12.08024	12.057356	6.278591	-12.07136	7.279617	2.271082	-9.316149	10.386479	-1.834415	-12.51622	8.480368	-1.982929	-11.02151	3.365654	-3.794127	-10.68761
50 µM Asp-	17.263229	6.738819	-11.33766	15.285761	7.355751	-10.40389	9.035848	2.595766	-8.035164	13.84329	-2.390236	-13.19154	10.501537	-2.648003	-12.30898	5.506658	-3.711847	-11.39365
50 µM Asp-	18.00239	7.595764	-10.83339	15.671219	7.413452	-10.80096	9.271424	3.318539	-7.941277	13.689314	-2.379311	-13.21851	10.556503	-2.406284	-12.77262	5.319563	-3.81632	-11.84705
50 µM Asp-	17.573235	6.920452	-11.17822	15.030046	6.707409	-10.98771	9.012631	2.817003	-8.284397	13.509389	-2.708775	-13.37282	10.47081	-2.614544	-12.3916	5.241038	-3.933765	-11.70878
50 µM Asp-	17.689314	6.574257	-11.13281	14.44486	5.514168	-11.50734	8.836462	2.104132	-8.850803	13.501879	-3.210651	-13.32673	10.273814	-3.389553	-12.84705	5.054285	-4.348923	-11.62376
50 µM Asn-	19.735064	8.18095	-12.41311	16.401844	7.303516	-12.69546	10.245818	2.489927	-10.46774	15.060089	-1.329807	-15.35576	12.027996	-2.01263	-14.19666	5.927279	-3.662342	-12.46262
50 µM Asn-	20.855925	9.280987	-11.63537	16.676342	7.256058	-12.95562	10.938886	3.579037	-9.318197	15.114374	-1.017754	-14.69273	11.370434	-2.116764	-13.74155	5.606009	-3.385456	-11.94776
50 µM Asn-	19.709799	8.163879	-12.5804	16.706726	7.421303	-12.40151	10.526117	3.194948	-9.981907	14.747355	-2.003075	-15.2844	11.387505	-2.254353	-13.89553	5.867873	-3.078526	-11.60328
50 µM Asn-	19.515535	7.097301	-13.53705	17.010586	6.729942	-12.78252	10.401844	2.754183	-10.55514	14.824856	-2.333221	-15.71424	11.360532	-2.783203	-14.56265	5.60396	-3.950153	-12.72619
50 µM Pro-	4.12359	1.173779	-4.251278	3.220896	0.632641	-4.187435	1.848413	0.26289	-2.843632	3.891088	-2.321953	-3.671902	2.741892	-2.116077	-3.724819	0.985319	-2.78286	-4.446228
50 µM Pro-	3.86207	0.938206	-4.138611	3.523388	1.03141	-3.48822	1.684193	-0.031752	-2.946056	3.167293	-2.974052	-3.986	2.658586	-2.340046	-3.680096	0.760669	-2.686241	-4.493343
50 µM Pro-	3.717651	0.838169	-4.006489	3.298054	0.8409	-3.493343	1.716286	-0.078867	-3.009562	3.163537	-3.636395	-3.973026	2.307955	-2.836805	-4.336636	0.706384	-3.320929	-5.272793
50 µM Pro-	3.890406	0.81086	-4.115055	3.032434	0.330147	-4.058723	1.494708	-0.431547	-3.399796	3.141004	-4.016045	-4.800274	2.615569	-2.741211	-4.378967	1.051553	-3.300785	-4.961418
50 µM Arg-	4.895868	2.503586	-2.019802	3.986687	1.873676	-2.650391	2.18607	0.42506	-2.12598	3.567087	-0.801296	-2.812904	2.040287	-0.993172	-3.291908	0.84056	-2.053261	-3.938885
50 µM Arg-	4.99044	2.230457	-2.58279	4.134518	1.81871	-2.40184	2.435303	0.729259	-2.136906	3.495049	-0.903381	-3.017754	2.028337	-1.013996	-3.34005	0.65688	-2.00717	-4.263233
50 µM Arg-	4.853191	2.241035	-2.679752	4.068283	1.866848	-2.130421	2.186412	0.32366	-2.610451	3.686583	-0.400818	-2.884945	2.069648	-0.985661	-3.29908	0.697508	-1.884604	-4.113007
50 µM Arg-	4.643906	2.240013	-2.057697	3.821783	1.389553	-2.501194	2.048822	0.193583	-2.841583	3.538068	-0.626492	-2.805054	2.280642	-1.035164	-3.273815	0.843291	-1.783884	-3.898258
50 µM Lys-	3.212358	-0.007172	-4.016048	3.820076	0.893818	-3.131443	2.137248	-0.415842	-2.992146	3.116422	-2.388187	-4.076477	2.431205	-1.300102	-3.648685	0.967566	-2.414474	-4.115055
50 µM Lys-	3.830317	0.718334	-3.36668	3.379652	0.745991	-3.010925	2.392966	0.080233	-2.679413	2.794128	-2.825539	-4.191875	2.021168	-1.479687	-3.414474	1.126323	-1.713896	-3.412426
50 µM Lys-	3.901672	0.76067	-3.276203	3.225674	0.374874	-3.404232	1.992147	-0.433254	-3.122223	2.731308	-2.372822	-3.882553	2.410038	-1.571526	-4.04882	0.776374	-2.467052	-4.384773
50 µM Lys-	3.580402	0.394672	-3.545921	3.03619	0.390236	-3.226017	2.143052	-0.638784	-3.212704	2.950837	-2.8409	-3.883579	2.376579	-1.728916	-3.877773	0.778423	-2.67395	-4.133835
50 µM Tyr-	7.046432	3.890408	-9.662685	5.172413	3.952545	-8.287811	2.981222	1.875044	-6.832026	4.441447	-2.925571	-9.810856	3.695118	-2.484467	-9.206554	1.29225	-3.672585	-8.432568
50 µM Tyr-	7.006145	3.290886	-10.03551	5.150562	3.551044	-8.86002	3.029019	1.49505	-7.560944	4.449983	-3.270058	-10.28099	3.777398	-3.019119	-9.507339	1.279959	-3.413452	-8.785248
50 µM Tyr-	7.195629	3.512802	-10.14954	5.020826	3.71526	-9.027653	3.107886	1.722431	-7.404234	4.295322	-3.070332	-9.947762	3.374872	-3.027992	-9.58757	1.203141	-3.415842	-8.644249
50 µM Tyr-	7.947763	3.744625	-9.581429	5.235918	3.626152	-8.961761	3.091841	1.612156	-7.209286	5.065553	-2.676342	-9.375217	3.500171	-3.175144	-9.224651	1.272106	-3.424036	-8.059063
50 µM Cys-	44.558548	26.572895	-24.23694	47.585869	28.238991	-25.4551	50.749062	29.661316	-22.51997	55.458519	22.111301	-37.77603	57.158077	23.684875	-39.46739	52.290199	20.541822	-38.4889
50 µM Cys-	43.889381	23.92284	-28.08809	47.568111	27.085011	-27.82246	50.379654	28.431887	-24.1253	55.501194	21.555485	-38.12632	55.980541	23.350632	-37.63571	50.906109	20.675659	-37.13759
50 µM Cys-	43.993515	24.077843	-27.56709	46.717991	25.907818	-29.35644	48.336975	26.046774	-26.75316	55.055649	20.192215	-39.22807	56.524071	23.638786	-38.42677	51.215435	20.747353	-36.9802
50 µM Cys-	44.649368	24.278252	-27.28713	47.472862	26.079208	-29.60737	48.804031	25.484806	-27.9068	56.001705	20.174461	-39.57733	57.515877	23.71936	-39.21748	52.057358	20.385799	-38.324
50 µM His-	23.396383	10.193237	-19.32332	19.756231	8.431889	-19.51553	12.194264	3.573915	-14.50973	17.634007	-0.759987	-20.70058	11.819052	-3.152611	-19.52612	4.256743	-4.39399	-14.08706
50 µM His-	24.181974	10.767155	-19.05838	19.76989	7.822124	-20.49061	11.988051	3.074429	-15.20553	17.052235	-1.650734	-21.75623	11.523045	-2.986687	-19.1311	4.02902	-4.050529	-13.56538
50 µM His-	24.080233	10.527824	-19.2325	20.074427	8.395355	-19.72175	12.429156	3.807783	-13.96483	17.108227	-1.855244	-21.56607	11.495733	-3.224308	-18.83476	3.848412	-4.739161	-14.11608
50 µM His-	24.861383	11.064526	-17.8013	20.631271	8.474564	-19.04302	12.772619	3.924206	-13.73404	17.943325	-1.443153	-20.60532	11.741891	-3.562992	-19.13247	3.95903	-5.190166	-14.19563

	R1	G1	B1	R2	G2	B2	R3	G3	B3	R4	G4	B4	R5	G5	B5	R6	G6	B6
100 µM Gly	9.900311	6.205872	-2.612839	8.257767	5.662342	-3.830658	6.107546	3.077501	-2.141687	11.790031	5.933426	-5.543873	10.354389	5.163197	-4.622738	6.456812	3.145102	-3.731308
100 µM Gly	10.630589	6.322296	-2.8409	8.78013	5.884941	-3.61352	6.444178	3.335951	-1.962444	12.456127	5.956299	-5.320927	10.587915	4.85046	-5.014683	6.401503	3.098328	-3.443495
100 µM Gly	10.567085	5.962105	-2.846367	8.86548	5.854218	-3.606352	6.571186	3.218163	-2.265619	12.699898	6.114376	-5.421989	10.095596	4.510071	-5.190849	6.544214	3.133152	-3.460566
100 µM Gly	10.483101	5.994537	-3.364971	9.170364	5.90406	-3.781496	6.04575	2.880846	-2.307272	12.325367	5.761692	-5.425743	10.27791	4.603619	-5.153633	6.051554	2.721748	-3.849436
100 µM Ala	6.019119	3.250599	-2.501194	5.305908	3.966885	-1.842609	4.099352	2.333561	-0.990986	7.939571	4.044044	-3.236599	6.711504	3.759644	-3.124619	3.788664	2.234892	-1.748309
100 µM Ala	5.569817	3.332539	-2.558556	5.049164	3.907818	-2.17617	3.947422	2.171047	-1.046774	8.255035	4.250599	-3.681461	6.908844	3.820755	-3.091839	3.795494	2.27006	-1.724821
100 µM Ala	5.815979	3.232502	-2.616592	5.11301	3.722088	-2.232843	4.079208	2.10379	-0.986002	7.989418	3.867188	-3.775009	7.171047	3.390919	-2.920448	3.882895	2.165586	-1.745304
100 µM Ala	5.600204	3.279826	-2.591602	5.156364	3.81584	-2.004541	3.974974	2.177058	-1.054729	8.081257	4.001709	-3.769886	6.911301	3.826221	-3.088531	3.82144	2.187061	-1.752885
100 µM Val	7.723454	4.690678	-3.035507	6.875727	5.141689	-3.087061	4.335609	2.435986	-2.129053	10.331852	5.762375	-4.114033	8.321955	3.688629	-4.501537	5.085354	2.848412	-2.740185
100 µM Val	8.708088	5.466713	-2.671219	6.636736	4.939469	-3.210653	4.878798	2.575999	-1.915944	10.000343	5.024242	-4.195629	8.594846	3.899624	-4.536599	5.03076	2.687948	-2.770162
100 µM Val	8.399456	5.685902	-1.931717	6.772959	5.052917	-2.911915	4.839195	2.595083	-1.927279	9.760326	4.951862	-5.22192	8.502562	3.700237	-4.806076	4.322294	1.721066	-3.555479
100 µM Val	8.740185	5.525436	-2.542164	6.775009	4.991602	-3.251623	4.845647	2.55203	-2.04336	10.301128	5.12598	-5.291908	8.84568	3.923965	-4.97303	4.824856	2.117786	-3.485491
100 µM Leu	8.978832	5.70126	-2.603279	6.779787	4.775349	-3.612837	5.373165	2.941277	-1.785933	11.579723	6.385799	-3.855244	8.527483	4.543873	-5.155003	5.042336	2.52919	-3.205873
100 µM Leu	9.394333	6.046776	-2.141006	7.533968	5.700924	-2.580404	5.40321	2.965517	-1.665756	11.76067	6.284737	-4.417549	9.181633	4.859341	-4.612152	4.010584	1.581085	-4.078526
100 µM Leu	9.969616	6.419258	-1.939911	7.832367	5.725502	-2.81188	5.383747	2.920792	-1.82827	11.583477	6.172073	-4.153637	9.492659	4.909866	-4.22533	4.880846	2.275862	-3.300785
100 µM Leu	9.888359	6.009764	-2.086376	7.395357	5.37624	-2.853191	4.986002	2.975281	-1.834857	11.894844	6.284737	-4.385456	8.941959	4.811641	-4.790375	4.88426	2.026972	-3.644247
100 µM Ile-	3.719357	1.311371	-5.18573	4.81871	3.120522	-3.63537	4.547626	2.180948	-1.9324	8.943325	4.180607	-5.631275	7.777054	3.403206	-4.793102	5.265278	2.379311	-3.48037
100 µM Ile-	3.114376	0.571865	-5.658585	5.413792	3.167976	-4.179585	4.516558	1.798567	-2.329464	9.283714	4.348583	-5.61113	7.817345	3.188805	-4.976101	5.192217	2.530216	-3.467737
100 µM Ile-	3.391941	1.047115	-5.763058	4.881187	2.654835	-4.486856	4.593376	1.843973	-2.343803	9.2267	3.993172	-5.95118	8.092522	3.468761	-4.775005	5.185389	2.354046	-3.689655
100 µM Ile-	3.716969	1.251282	-6.026291	5.625473	3.05497	-4.572208	4.978151	2.184364	-2.480368	9.478321	4.589279	-5.670536	7.986687	3.269718	-5.444862	5.324343	2.128031	-3.815296
100 µM Gln	7.068283	3.206215	-6.584156	7.728575	4.473198	-6.025606	6.495392	3.162512	-2.914648	11.528507	5.609425	-7.459885	10.672926	5.142025	-7.079208	6.702629	3.415501	-4.240013
100 µM Gln	6.937862	2.446228	-7.271084	7.597816	4.224308	-5.998634	6.535677	3.138613	-2.980198	13.90884	6.399796	-7.076817	10.99283	4.860703	-6.672924	6.811539	3.337317	-4.39843
100 µM Gln	7.800613	3.381016	-6.194946	8.096964	4.903381	-5.087742	6.358143	2.853191	-3.069307	12.835438	6.11198	-6.636395	11.226357	5.371113	-5.657223	6.920109	3.450325	-4.059748
100 µM Gln	8.265961	3.934792	-6.463982	8.499146	4.794807	-5.479004	6.279276	2.678047	-3.267668	12.890747	5.99966	-7.240356	10.838169	4.755207	-6.209286	6.56982	2.813931	-4.868216
100 µM Met	12.461594	8.020485	-4.974735	11.617958	8.050873	-4.407648	8.09901	4.650734	-2.616251	15.270741	8.069649	-7.090816	13.912596	7.117104	-6.288494	8.125641	4.343121	-4.39126
100 µM Met	12.31649	7.677021	-5.055309	11.124273	7.85524	-4.711164	8.450323	4.76306	-3.089109	15.750427	8.89109	-7.356777	13.764425	6.961082	-7.097984	8.055651	4.361898	-4.757597
100 µM Met	12.412083	7.827927	-5.309319	11.42984	8.201096	-4.39365	8.545919	4.752132	-3.056334	15.55275	8.586891	-7.18573	13.978491	6.94162	-7.010925	8.04575	4.383747	-4.438375
100 µM Met	12.645271	7.72448	-5.336398	10.982246	7.77467	-4.424345	7.948755	4.605497	-3.058484	16.163197	8.849438	-6.986343	13.715533	6.953053	-7.059165	7.908501	4.294161	-4.798258
100 µM Ser	13.486855	8.131104	-6.486515	12.84568	8.19836	-5.786617	9.681461	5.064528	-4.06521	17.547287	9.648003	-8.273472	15.914646	7.688972	-8.349949	10.365995	5.344145	-5.472857
100 µM Ser	13.729599	8.63298	-6.128029	12.978832	8.453056	-5.884943	10.155685	5.322977	-4.11574	17.621372	9.988735	-8.576649	16.428474	8.066917	-8.304199	10.234894	5.229429	-5.797541
100 µM Ser	14.323318	9.312054	-5.399456	12.943327	8.813248	-5.567429	10.425741	5.655514	-3.900307	17.505974	9.91806	-8.114372	16.600887	8.426426	-7.906796	10.154661	5.116423	-5.703995
100 µM Ser	14.084328	8.738819	-6.484467	13.096075	8.258756	-5.931374	10.015364	4.938204	-4.223625	17.557734	9.623592	-8.863847	16.340046	7.784569	-8.486172	10.105837	4.923455	-5.800716
100 µM Thr	15.90099	10.243767	-8.583134	17.324684	11.005119	-7.5944	15.352682	8.036873	-5.153636	20.148514	11.736088	-10.38375	21.090134	11.197338	-10.5367	15.902357	8.476273	-7.259474
100 µM Thr	16.260838	10.34483	-8.132126	17.915329	11.581772	-7.602253	15.919765	8.310343	-4.952885	21.536018	12.798908	-10.53909	21.808809	11.457493	-10.15364	16.049505	8.292591	-7.53875
100 µM Thr	16.549335	11.030045	-8.125842	18.20314	11.465008	-7.45647	16.075113	8.415501	-5.074429	21.590645	12.917034	-10.47299	21.542847	11.822807	-10.59167	16.283714	8.421988	-7.586206
100 µM Thr	16.376236	11.236259	-8.2803	18.240013	11.289516	-7.655855	15.42984	7.746328	-5.368727	21.467396	13.027657	-10.30898	21.448277	10.978832	-10.1632	15.879822	8.027655	-7.559917
100 µM Phe	9.751453	7.303177	-4.330147	9.910206	7.365997	-4.413452	7.668488	4.74394	-3.423012	14.124615	9.155685	-6.445202	13.289516	8.184364	-6.487198	9.047115	5.489927	-5.985661
100 µM Phe	9.9324	6.749401	-4.890064	9.780811	7.29771	-4.8887	8.476273	5.480711	-3.065552	14.167976	9.028339	-7.04575	13.569477	8.691364	-6.456127	9.232502	5.965858	-5.322636
100 µM Phe	10.350971	7.185047	-5.129055	10.175827	7.272106	-5.006828	8.716969	5.616592	-3.292252	14.2407	9.516903	-6.875725	13.649029	8.007172	-6.641514	9.592693	6.326391	-5.147491
100 µM Phe	10.323662	7.384434	-5.982929	10.393993	7.174461	-5.44179	8.502218	5.391943	-3.668488	15.124275	9.703991	-7.40799	13.568111	8.034142	-7.210995	9.724138	5.79003	-6.252304
100 µM Glu	7.43428	3.267326	-7.281324	9.687948	6.037212	-5.68351	7.576988	3.895868	-3.279617	13.273132	5.266304	-8.50563	12.080572	6.039948	-7.083647	7.623421	3.834755	-5.204166
100 µM Glu	7.767841	3.513142	-7.651758	9.359167	5.801979	-5.732332	7.343803	3.91567	-3.218163	13.97337	6.079208	-7.96859	12.188116	6.038921	-7.145441	7.114714	3.378969	-5.45681
100 µM Glu	7.615566	3.027996	-7.586889	9.526802	5.573917	-5.760328	7.357119	3.60157	-3.457494	14.025604	5.985321	-8.126324	12.764765	6.688972	-6.653122	7.783884	3.907476	-5.325367
100 µM Glu	8.231136	3.554115	-7.585526	8.827587	5.053944	-5.9662	7.576647	3.548994	-3.733697	15.04063	6.766815	-7.792419	12.311712	5.769543	-7.480711	7.752132	3.758621	-5.331854
100 µM Trp	14.552406	10.918743	-6.410038	16.404575	11.843632	-7.036873	14.234549	9.791397	-5.069307	19.613178	12.631954	-9.71492	19.656881	12.365997	-10.2745	14.688288	9.795492	-7.426426
100 µM Trp	14.762379	10.455448	-7.206213	16.468418	12.089108	-7.013657	14.128033	9.45886	-5.326733	19.942982	13.531921	-9.932404	20.700241	12.803005	-9.612154	14.757256	9.711847	-7.608057
100 µM Trp	14.670536	10.542164	-7.431889	16.316147	11.388187	-7.229088	14.325026	9.808807	-5.506317	20.069988	13.641514	-9.314785	20.940594	12.800957	-9.437351	15.197338	9.63059	-8.033798
100 µM Trp	14.79044	11.014339	-7.229431	16.376923	11.975075	-7.094709	14.311814	9.639467	-5.531649	20.032298	13.635029	-10.05067	20.758965	12.820174	-10.10529	15.027211	9.842336	-8.17173
100 µM Asp	14.325367	8.894505	-8.391258	15.656879	9.602253	-8.685558	15.366678	8.076477	-5.526801	19.816662	10.892452	-11.08979	20.161488	10.665413	-11.12359	15.542847	8.03824	-8.508707
100 µM Asp	14.226696	8.390919	-8.66132	16.977465	10.784565	-8.3479	15.014679	7.664391	-5.831001	20.564358	12.005802	-11.29327	20.948105	10.700237	-11.2704	15.349607	7.944351	-8.534655
100 µM Asp	14.016045	8.481735	-9.047115	16.871971	10.691364	-8.508366	15.033459	7.597473	-6.132127	20.440765	12.050869	-11.1294	21.979172	11.720383	-10.2762	15.727213	8.138956	-8.655516
100 µM Asp	14.135201	8.882553	-8.942986	17.259132	10.226696	-9.068283	15.309322	7.582109	-6.064185	20.683853	12.030727	-11.40901	21.556164	11.189823	-10.9068	16.805735	7.9464	-9.311369
100 µM Asn	18.405258	11.825195	-7.187094	19.850121	12.419254	-7.797541	15.353363	7.788668	-5.7197	20.80505	12.456814	-10.56675	21.196653	10.498802	-11.67634	15.677708	7.545578	-8.35507
100 µM Asn	18.551041	12.264595	-7.179583	19.176168	12.613861	-7.627176	15.888016	8.214748	-5.442813	21.957325	13.232162	-10.61147	22.327759	11.771595	-10.69273	15.752132	7.449642	-8.799589
100 µM Asn	18.711506	12.637077	-7.117445	19.314442	12.738819	-7.471493	15.786615	8.165926	-6.237282	20.757938	11.765793	-11.61318	21.647663	10.893139	-11.81564	16.077841	7.851143	-8.396721
100 µM Asn	18.026287	12.222256	-7.892796	19.60601	12.643562	-7.926939	15.616251	7.548307	-6.199386	21.916359	12.967911	-10.83851	22.302151	11.188118	-10.81905	16.353704	7.745306	-8.462957
100 µM Pro	3.128712	1.417549	-3.187096	4.350292	4.065212	-1.253328	3.3141	2.051554	-1.142029	6.428131	3.745991	-3.174461	5.346195	3.332195	-3.353363	2.480026	0.926254	-2.873337
100 µM Pro	3.759987	2.508705	-2.607716	3.449642	2.750767	-2.203484	3.317856	2.185389	-1.155685	6.158756	3.033798	-3.986343	5.736086	3.526798	-3.159439	2.498463	0.830658	-3.087744
100 µM Pro	3.127346	1.777397	-3.156712	3.598495	3.057014	-2.146467	3.174461	1.950153	-1.210651	6.528164	3.702629	-3.726185	5.451347	3.101742	-3.127346	3.233526	2.092182	-2.113008
100 µM Pro	4.003414	2.068283	-3.138954	3.723797	2.813927	-2.269375	3.292591	1.932402	-1.168318	7.013657	4.075794	-2.910549	5.932398	3.186752	-3.037556	3.39843	1.8211	-2.178219
100 µM Arg	4.689312	2.378628	-1.674633	5.607033	4.058041	-0.821783	4.650393	2.151245	-0.663708	7.000343	3.930351	-2.128716	6.483101	3.015022	-1.729259	4.421988	2.132811	-1.242744
100 µM Arg	4.735744	2.981903	-1.260159	5.919426	4.495052	-1.150564	4.878799	2.503927	-0.45681	7.123249	4.042336	-2.304539	7.268692	3.419937	-1.893139	4.431547	2.216116	-1.45886
100 µM Arg	4.630592	2.916351	-0.546261	6.192558	5.132469	-0.22226	4.672585	2.508707	-0.233528	7.159779	4.223286	-1.813927	7.119152	3.996929	-1.292252	4.384432	2.136908	-1.193924
100 µM Arg	3.923523	2.249229	-1.44418	5.354385	3.488903	-1.035507	4.497438	1.929668	-0.752817	7.156029	3.993855	-1.844315	6.190849	2.880844	-1.830318	4.256742	1.940935	-1.373507
100 µM Lys	6.363605	2.605671	-2.944691	4.935814	2.777397	-1.661318	4.130421	1.557186	-1.102423	8.217823	3.790714	-2.784912	7.230114	3.066574	-2.281326	4.503925	1.558552	-1.255377
100 µM Lys	6.63332	3.421646	-2.120857	5.441788	3.637077	-1.682486	4.296005	1.76613	-1.060089	8.269718	4.275181	-2.689655	7.017756	3.143734	-2.350632	4.859678	2.336634	-0.653807
100 µM Lys	6.490952	3.522705	-2.023899	5.805393	3.836121	-1.534655	4.315125	1.786617	-1.012974	7.271084	3.001709	-3.553089	7.164904	2.960735	-2.327076	4.216799	1.352339	-1.25845
100 µM Lys	6.632298	3.676342	-2.146809	5.771255	3.730077	-1.5324	3.986685	1.635644	-1.018915	7.405941	3.498802	-3.175488	6.495049	2.918571	-2.209457	4.4014	1.353363	-1.092354
100 µM Tyr	8.83783	6.825195	-6.446911	8.400135	7.397747	-5.583817	5.416523	4.289177	-4.322637	11.385799	7.658588	-8.911236	10.854557	7.969612	-7.611473	7.942303	6.600546	-6.098669
100 µM Tyr	9.752476	7.777058	-6.62991	7.991806	7.19051	-6.106863	5.849777	4.778765	-4.308978	11.992832	8.265961	-9.364288	10.78764	7.652443	-8.293617	7.64254	6.309662	-6.295322
100 µM Tyr	9.55582	7.907818	-6.659611	8.228062	7.474564	-5.70775	5.96381	4.926937	-4.404916	12.287128	8.850456	-8.586548	11.001366	8.164562	-7.757256	7.660635	6.358143	-6.447594
100 µM Tyr	9.633324	7.508366	-7.415157	8.677364	7.185043	-6.2465	6.616253	5.322977	-4.434277	13.402187	9.14135	-9.085014	11.564014	8.010242	-8.291569	7.740185	5.908161	-7.000341
100 µM Cys	27.192558	20.921139	-11.01639	35.317513	26.051895	-13.18266	39.20314	26.007509	-12.83851	30.369408	19.876068	-17.55343	37.265621	23.24855	-21.11437	43.318539	27.493685	-17.53738
100 µM Cys	28.298733	22.022877	-10.5169	35.754181	26.583477	-12.58484	40.427452	26.312735	-13.85046	32.919765	21.910549	-17.66303	38.048485	23.689651	-21.81359	44.092865	27.857288	-18.01673
100 µM Cys	29.33868	22.715263	-10.0915	36.653805	27.312054	-12.08126	41.091156	26.375895	-14.13998	33.123249	22.233185	-16.72243	39.690338	24.895874	-20.24821	43.867188	27.306587	-18.14613
100 µM Cys	29.69136	22.651421	-11.0041	36.71629	27.011951	-12.69409	42.167976	27.683168	-12.31854	35.053261	24.006145	-15.10447	41.431889	26.792084	-17.94503	45.563675	28.827246	-17.46808
100 µM His	20.172756	15.063847	-8.580746	25.228746	17.589279	-10.54251	22.339706	14.330149	-8.517924	24.945717	16.374187	-13.25879	28.524412	16.98122	-15.23011	23.462955	13.625469	-12.91909
100 µM His	20.291908	15.24548	-8.685898	26.021168	18.31649	-10.00478	22.672583	14.301468	-9.155684	25.622734	16.659954	-14.21646	29.173098	16.904404	-16.02834	23.832367	13.687607	-12.98088
100 µM His	21.292931	16.037216	-8.243427	26.420279	18.582111	-9.843634	23.294641	14.67634	-9.421988	24.517239	14.972347	-15.58826	28.010582	14.703995	-18.13213	23.611813	13.163877	-13.32844
100 µM His	21.079895	16.196999	-8.322975	26.700581	18.245819	-10.20109	23.050869	14.179924	-9.7634	24.25845	14.566402	-15.83441	28.050188	14.733356	-17.53227	24.155003	13.34551	-13.90065

	R7	G7	B7	R8	G8	B8	R9	G9	B9	R10	G10	B10	R11	G11	B11	R12	G12	B12
100 µM Gly	12.372482	4.757938	-8.022873	9.196997	1.921474	-9.586208	7.007171	1.139639	-6.378286	9.5507	-4.092178	-9.985661	7.611813	-3.674974	-9.558895	3.732332	-3.93001	-9.869919
100 µM Gly	12.746332	4.765789	-8.46637	9.621714	2.433937	-8.968933	5.903038	-0.607033	-7.732334	9.612838	-4.17617	-10.14817	7.334243	-3.858997	-9.600544	5.439057	-1.682486	-7.452713
100 µM Gly	12.639128	4.427448	-8.700581	9.495049	2.435646	-9.029705	5.926596	-0.487881	-7.615568	9.483784	-4.254692	-10.39092	7.277911	-4.133152	-10.06316	3.415842	-4.133833	-9.883579
100 µM Gly	12.144419	4.161831	-8.583473	9.028679	1.355751	-9.71492	6.269376	0.017412	-7.193924	8.936497	-4.768177	-10.69648	7.064868	-4.424036	-10.15364	3.770229	-4.055309	-10.01263
100 µM Ala	7.618641	3.487198	-5.291908	6.080233	2.236256	-5.307953	4.410378	0.794128	-3.725504	6.336975	-3.309319	-6.718334	5.044042	-3.13315	-6.623081	2.792421	-2.996244	-6.793106
100 µM Ala	7.544214	3.313759	-5.514511	6.172071	2.191193	-5.246841	4.35029	0.991465	-3.728235	6.191193	-3.116081	-6.51656	4.872312	-2.920107	-6.432571	2.73438	-3.031069	-6.951859
100 µM Ala	8.434961	3.517582	-5.993515	6.336292	2.16695	-5.320244	4.462957	0.71014	-3.910892	6.337317	-3.011951	-6.264595	4.944691	-3.23728	-6.242405	2.607716	-3.451008	-6.812222
100 µM Ala	7.756229	3.25937	-5.514511	6.039946	1.935062	-5.2873	4.261079	0.86528	-4.048479	6.183681	-3.288527	-6.768181	4.876067	-3.091364	-6.59044	2.558211	-3.385524	-6.888392
100 µM Val	10.109253	4.041653	-7.611813	7.732674	2.438377	-7.417889	5.530215	0.499146	-5.950493	7.424377	-4.071014	-9.450325	6.262206	-4.087063	-9.234211	3.628542	-3.447252	-9.343121
100 µM Val	10.176512	3.743938	-7.882896	7.808466	2.352647	-7.452406	5.574632	0.29464	-6.05121	7.547285	-4.709797	-9.402731	5.964152	-3.907476	-8.970467	3.281632	-3.543836	-8.993687
100 µM Val	9.874702	3.49778	-7.909866	7.857288	2.390919	-7.32093	5.358826	-0.17412	-6.53875	6.52919	-5.065891	-9.758282	5.849778	-4.444521	-9.123592	3.232502	-4.009218	-9.210651
100 µM Val	9.934041	3.930147	-7.964493	7.882827	2.508022	-7.440079	5.4676	-0.285421	-6.036497	7.26801	-4.610447	-9.531345	5.858928	-4.034755	-9.058519	3.303516	-3.496414	-8.840904
100 µM Leu	10.754866	4.543873	-7.812565	8.403893	2.969273	-7.989758	5.845681	0.553774	-6.233187	7.844998	-4.028336	-9.541481	6.547968	-3.813246	-9.510075	3.889041	-3.544212	-9.807102
100 µM Leu	10.786274	4.593033	-7.912598	8.489244	2.973026	-8.090134	5.981222	0.693411	-6.141685	7.891088	-3.472176	-9.46603	6.268692	-3.73472	-8.979176	3.211335	-3.557188	-9.731308
100 µM Leu	10.714579	4.183338	-7.861042	8.267326	2.503242	-8.066235	5.781837	0.444521	-6.190166	7.673949	-3.965176	-9.176853	5.930352	-4.099691	-8.678387	2.941618	-3.864458	-9.301128
100 µM Leu	10.752304	4.586548	-8.009216	7.945715	2.884941	-8.0422	5.460567	0.447798	-6.216253	7.445887	-4.039126	-9.680096	5.986002	-4.075623	-9.640491	3.394333	-4.079993	-9.356094
100 µM Ile-	10.466028	3.241039	-9.601231	8.608398	2.551041	-8.589962	5.860362	0.253328	-6.573574	8.617617	-3.528847	-10.48959	7.407989	-3.202118	-9.131786	4.068965	-4.09457	-10.09491
100 µM Ile-	10.729259	3.390575	-9.254353	8.230797	2.100716	-8.631615	6.055651	0.245134	-6.806417	8.175144	-4.100037	-10.74257	7.438034	-3.626493	-9.51622	3.868556	-3.780128	-10.02219
100 µM Ile-	11.104132	3.598843	-9.013313	8.23148	1.90065	-8.840218	5.89143	0.052919	-6.948446	8.305564	-3.692047	-10.36565	7.098669	-3.821098	-9.56572	3.841243	-4.081598	-10.02185
100 µM Ile-	10.998974	3.309662	-9.419598	8.16456	1.996929	-8.801636	5.732674	-0.11574	-7.030046	8.345852	-3.970638	-10.29123	6.626493	-4.392628	-9.671562	3.727893	-4.221918	-9.780128
100 µM Gln	13.85968	5.870605	-9.791397	10.409355	2.987709	-10.22124	7.261522	1.186411	-7.606693	10.458177	-4.227722	-12.29601	7.720383	-4.790371	-12.23592	4.596449	-3.893822	-11.79413
100 µM Gln	14.017752	5.303173	-9.941277	10.514511	2.660633	-11.01809	7.255377	0.74155	-8.182314	10.4493	-4.216114	-12.45135	7.802321	-4.327759	-12.29498	3.993513	-4.442814	-11.52475
100 µM Gln	13.790712	5.002731	-9.89143	10.576647	2.497437	-10.72516	7.105839	0.64254	-8.058039	10.148173	-4.889385	-12.40936	7.736088	-4.167292	-11.34415	3.8986	-4.166269	-11.21133
100 µM Gln	13.149538	4.344147	-10.33083	10.431547	2.38887	-10.92933	6.936156	0.393991	-8.20792	10.36975	-4.472515	-12.06077	7.630932	-4.696482	-12.06077	4.176852	-4.841583	-12.34824
100 µM Met	15.466372	6.703312	-10.00581	12.820759	5.285763	-10.88768	8.426767	2.331854	-7.974392	12.0676	-3.211334	-14.3619	10.047457	-2.924204	-13.21133	5.188801	-3.827929	-12.90543
100 µM Met	15.707066	6.769547	-10.66541	13.1451	5.801296	-11.09457	8.379993	2.157393	-8.424717	11.759644	-3.143394	-14.2127	9.667805	-3.2943	-13.86378	4.755548	-3.825878	-12.6043
100 µM Met	15.711849	6.846024	-10.48618	13.01195	5.610104	-10.86719	8.18846	1.718674	-8.626833	11.689655	-3.674976	-13.95015	9.506315	-3.876751	-14.29088	4.786617	-4.306248	-12.64254
100 µM Met	15.719767	6.80321	-10.4592	12.897575	5.207511	-11.12154	8.147457	1.720313	-8.200752	11.791056	-3.669579	-14.39672	9.536634	-3.18334	-14.28849	4.822806	-4.404301	-12.93366
100 µM Ser	18.779446	7.925915	-11.79208	16.050871	7.037212	-12.29191	9.829293	2.712872	-9.757597	15.213725	-1.733353	-15.99488	12.040628	-3.080231	-16.50563	6.826903	-4.112326	-14.94606
100 µM Ser	18.692728	7.767498	-12.36258	16.206211	7.06282	-13.02971	10.276204	2.771595	-9.934446	15.180609	-2.220211	-16.74019	11.841926	-2.993172	-16.17276	6.567088	-4.174463	-14.66337
100 µM Ser	18.696827	7.723114	-12.44281	16.438717	7.367702	-12.49334	9.977808	2.846704	-9.844658	15.045408	-2.258793	-16.25162	11.757597	-2.92523	-16.14715	6.564698	-4.199387	-14.73131
100 µM Ser	18.591669	7.85937	-12.38887	15.940559	7.172413	-12.96825	9.853192	2.706589	-10.03049	14.998566	-2.377945	-16.8689	11.767463	-3.041174	-16.50297	6.572891	-4.196825	-15.04005
100 µM Thr	25.39604	11.412769	-14.86958	22.399796	10.243427	-14.71287	14.944691	5.512461	-11.37351	22.393311	1.32093	-19.17583	17.227039	-0.662342	-19.48549	9.757937	-4.077843	-17.71492
100 µM Thr	26.184364	11.626835	-14.35405	23.406963	10.409698	-15.39672	15.02902	5.402185	-11.62581	22.461592	1.554111	-18.67771	16.86924	-0.539776	-19.06077	9.405258	-3.992147	-17.31478
100 µM Thr	26.267328	11.385799	-14.22875	23.822123	10.449986	-15.28064	15.090134	5.345852	-11.5029	22.325367	0.994881	-18.63127	16.666439	-0.740185	-17.82759	9.373848	-3.987709	-16.06487
100 µM Thr	25.56743	10.493	-14.85285	22.982927	9.815296	-15.51485	15.054626	5.244452	-11.68112	21.713554	1.054966	-18.74223	17.123251	-0.431549	-18.40253	9.864118	-3.558554	-16.44179
100 µM Phe	17.868216	8.989075	-11.55446	14.407648	7.711166	-12.23967	9.007854	3.559919	-9.673609	14.134857	-1.831684	-16.85421	10.532263	-2.819054	-15.76374	5.872994	-3.309662	-14.53909
100 µM Phe	17.658928	8.749062	-11.6999	15.184704	8.346535	-11.5845	9.088768	3.82144	-9.539434	13.693412	-1.721748	-16.27279	11.085695	-2.064526	-15.39809	5.842608	-3.263573	-13.94572
100 µM Phe	18.225674	8.861042	-11.78491	15.490952	8.329124	-11.69512	9.227039	3.971321	-9.56094	13.768863	-1.545578	-15.86856	10.853192	-2.235916	-15.44828	5.65449	-3.531921	-14.13144
100 µM Phe	18.006147	7.851826	-12.74804	15.322636	8.142708	-12.2523	9.158758	3.803005	-9.768179	14.472857	-1.527142	-16.15978	10.810515	-2.502903	-15.42403	5.653465	-3.788666	-14.43257
100 µM Glu	14.800615	5.320248	-11.86446	12.367702	3.563332	-9.575623	8.135881	1.000341	-7.698532	12.529531	-2.704678	-11.44077	9.568453	-3.013313	-11.2226	5.565381	-3.348583	-10.1014
100 µM Glu	14.969273	5.817345	-11.63708	12.088084	3.302492	-9.568794	8.100376	1.198702	-7.451006	12.101399	-2.586548	-11.17754	9.48822	-3.483099	-11.58894	5.424718	-3.25094	-9.810173
100 µM Glu	15.019119	5.490269	-11.48754	11.842951	2.917036	-10.38614	8.225332	1.085693	-7.709457	12.16183	-2.837486	-11.38511	9.385798	-3.457493	-11.42711	5.529191	-3.193922	-9.318197
100 µM Glu	15.352339	5.564358	-11.68487	12.467737	3.19529	-10.84022	8.148856	1.069988	-8.23933	12.377604	-2.77808	-11.43223	9.177876	-3.113691	-10.99488	5.869238	-2.946398	-9.413794
100 µM Trp	23.582451	12.649025	-14.70741	21.941278	12.448616	-14.67566	14.021169	7.455105	-11.36019	20.775009	2.660637	-18.00956	15.428473	1.41106	-18.13008	8.474565	-1.700581	-16.07033
100 µM Trp	24.365993	13.019119	-14.18573	22.009903	12.360874	-14.77194	14.021508	7.512463	-11.73574	20.849094	2.283371	-17.83202	15.42028	1.536362	-17.77228	8.239331	-1.653807	-15.56094
100 µM Trp	24.233187	12.744961	-14.39194	21.832706	11.912941	-15.19802	14.016047	7.264254	-12.03175	20.889038	2.34005	-17.60703	15.442472	1.335953	-17.79993	8.305906	-1.702971	-15.4254
100 µM Trp	24.286174	12.76282	-14.70027	21.748037	11.981122	-15.04326	14.271082	7.302085	-12.09095	20.984295	2.202388	-18.09126	15.459883	1.527959	-18.0974	8.359781	-1.780914	-15.90816
100 µM Asp	25.178217	11.24855	-16.44008	21.244795	8.727554	-15.85046	14.366677	4.699556	-12.63366	22.061453	0.964493	-18.91943	15.977808	-1.237621	-18.82417	9.872312	-3.626493	-17.50632
100 µM Asp	25.46876	11.110275	-16.09662	21.302151	8.582111	-16.31	14.679072	4.677023	-12.6999	21.941277	0.884945	-18.46808	15.882895	-0.672585	-17.43701	9.745647	-3.520315	-16.61455
100 µM Asp	25.81086	10.870605	-16.69853	21.472176	8.205532	-17.21543	14.616593	4.344145	-13.54831	21.986343	0.167976	-19.24274	15.839878	-0.857971	-17.91738	9.713896	-3.374187	-16.36873
100 µM Asp	26.262203	10.460567	-16.32093	21.637077	7.880505	-17.28337	15.280643	4.759302	-13.53294	22.462955	0.418232	-18.88494	16.191532	-1.318199	-18.36805	10.082623	-3.342779	-16.47764
100 µM Asn	24.844315	9.930691	-15.73199	22.381357	9.051212	-17.01297	14.46364	4.476273	-12.89962	21.569136	0.695457	-19.30215	16.598156	-1.495049	-19.9604	9.200668	-4.363947	-16.9423
100 µM Asn	25.727894	10.532604	-15.26118	22.761694	9.283714	-16.60089	14.418573	4.271084	-12.71936	22.110277	0.250938	-18.95289	16.225674	-1.884945	-20.08604	8.585525	-5.023558	-17.64629
100 µM Asn	25.753839	10.462955	-15.6941	22.543871	9.283714	-16.60943	14.484123	4.455446	-12.84466	22.14237	-0.088768	-19.648	16.288155	-1.969612	-20.63537	8.635712	-5.176168	-18.26664
100 µM Asn	25.472515	10.160805	-15.91089	23.299419	9.481392	-16.61079	15.280983	4.725845	-13.00478	22.144417	-0.590988	-20.3858	16.625469	-2.354389	-20.97713	8.986343	-4.994537	-18.17685
100 µM Pro	6.972687	2.658928	-6.115055	5.721748	1.990784	-5.964836	4.201093	1.342096	-3.584158	6.032434	-2.955616	-6.769886	4.749061	-2.862068	-6.518265	2.392967	-2.935472	-6.81086
100 µM Pro	7.225674	2.739502	-5.99044	6.200069	2.772617	-5.237621	3.937522	1.015022	-4.227722	5.793446	-2.998978	-7.085354	4.559918	-2.871969	-6.421307	2.503243	-2.795494	-6.386822
100 µM Pro	7.80164	3.315125	-5.102425	6.118813	2.536018	-5.386478	3.808467	0.768864	-4.101402	5.880164	-2.820759	-6.331169	4.399113	-3.181974	-6.817684	2.288836	-3.425743	-6.881531
100 µM Pro	7.071356	2.257084	-5.82349	5.950836	2.19495	-5.532608	3.718333	0.497782	-4.211334	5.943326	-3.099693	-6.952202	4.797201	-3.227383	-6.727894	2.442131	-3.442129	-7.160805
100 µM Arg	7.214407	3.134174	-3.513485	6.205873	2.620689	-3.710823	3.922841	0.638443	-2.627859	5.613861	-0.899624	-4.227383	4.483441	-1.438034	-4.214748	1.762035	-2.266987	-4.630249
100 µM Arg	7.448277	3.129738	-3.939568	6.402868	2.582794	-3.848412	3.898942	0.842949	-2.774668	5.421988	-1.043018	-4.844318	4.340047	-1.701263	-4.926937	1.55548	-2.372482	-5.468079
100 µM Arg	7.823488	3.514507	-3.350288	6.621372	3.211674	-2.85183	3.699898	0.625128	-3.199387	5.517242	-1.124615	-4.497784	4.390918	-1.433254	-4.504951	1.482759	-2.544556	-5.540798
100 µM Arg	7.398088	3.300102	-2.990097	6.334585	2.502899	-3.265621	3.502902	0.162514	-3.332878	5.239672	-1.423695	-4.604301	4.187095	-1.653805	-4.449303	1.616934	-2.777397	-5.274837
100 µM Lys	7.386822	1.804028	-4.970642	6.182999	1.72448	-4.670876	3.858314	-0.300102	-4.223965	5.459542	-1.988392	-5.238991	4.822807	-2.423355	-5.229427	1.797883	-3.145782	-5.780128
100 µM Lys	7.78969	2.412086	-4.716969	6.00239	1.917377	-4.441105	4.420621	0.79208	-3.170025	5.162171	-2.467735	-5.044727	4.092865	-2.58894	-5.251282	1.685217	-2.913282	-5.723793
100 µM Lys	7.942301	2.3479	-4.47559	6.175486	1.945374	-4.324684	3.899625	-0.143736	-3.961418	5.242745	-1.828949	-4.961079	4.471834	-2.889381	-5.729259	1.578013	-3.047113	-5.828953
100 µM Lys	7.541822	2.047798	-4.937523	5.98013	1.852374	-5.172756	3.737453	-0.429499	-4.015877	4.725504	-2.428814	-5.04575	4.269375	-3.131443	-5.961761	1.632981	-3.051997	-5.957664
100 µM Tyr	14.964151	7.750767	-13.31035	11.570501	7.178219	-13.49607	7.398088	3.586548	-10.62103	10.73916	-1.246498	-16.5268	8.801297	-2.382042	-15.8829	4.587914	-3.392626	-15.15841
100 µM Tyr	15.162514	7.604301	-13.78149	11.906452	7.063503	-13.54421	7.533971	4.035507	-10.87061	10.955616	-1.251961	-16.88461	9.213384	-2.268692	-15.80574	4.55548	-3.297029	-15.17344
100 µM Tyr	14.779106	7.280643	-14.11267	11.787981	6.898258	-13.68829	7.257426	4.091156	-11.04712	10.637419	-1.282352	-16.5186	8.77296	-2.161488	-15.92523	4.519631	-3.026972	-14.71458
100 µM Tyr	15.175486	6.951519	-14.21134	12.24855	7.229771	-13.68863	7.954593	4.273815	-10.44998	11.617959	-0.986004	-16.05838	8.686924	-2.487198	-15.66269	4.519973	-3.383749	-14.73301
100 µM Cys	45.630249	27.184025	-24.73882	48.431549	28.808811	-26.56367	51.505291	29.91806	-23.17992	55.967224	22.327072	-37.88597	57.745991	24.036873	-40.02116	58.181633	24.732332	-38.89348
100 µM Cys	45.270401	25.331516	-28.16627	48.841244	28.202797	-28.84261	50.9324	28.511095	-25.09969	55.902699	21.602253	-38.50256	56.487881	23.650734	-38.3322	55.945374	23.803005	-38.4633
100 µM Cys	45.155685	25.236599	-28.19495	48.090473	27.138615	-29.78355	49.338341	26.593718	-27.17958	55.780472	20.793442	-39.20314	57.021168	23.877773	-38.986	55.652782	23.461933	-38.56368
100 µM Cys	45.840561	25.057701	-27.88699	48.698189	27.005123	-30.29669	49.81871	26.10413	-28.30898	56.269718	20.123249	-40.13793	58.23148	24.041313	-39.85354	57.177536	23.67395	-39.47081
100 µM His	32.691704	15.962784	-21.95425	29.691362	14.273132	-22.96347	22.396042	9.237625	-18.71116	32.21714	5.875725	-28.5425	25.447594	2.924549	-28.76033	15.718333	-1.998976	-25.70468
100 µM His	33.819054	16.699898	-21.77057	29.786617	13.653805	-24.47354	22.503582	8.766472	-19.46876	31.639126	5.005119	-29.70365	24.515875	2.459202	-27.64357	15.374872	-1.600546	-24.94913
100 µM His	33.688629	16.364971	-22.09286	30.354727	14.379993	-23.44691	22.724819	9.484806	-18.3916	31.908501	5.038921	-29.56163	24.584841	2.361897	-28.20007	15.104132	-2.181633	-25.45613
100 µM His	33.961418	16.548992	-20.99727	30.906796	14.384773	-22.91635	23.371801	9.60396	-18.05155	33.419258	5.655857	-27.95698	25.501877	2.255379	-28.91738	15.455787	-2.603619	-26.0437