Supplemental Table 1. Official chemical identification results for strict and approximate named entity recognition measures. Runs are ordered by strict F-score, descending. Highest value in each column is marked in bold. Runs marked with an asterisk are unofficial.

Team / Run	Strict			Approximate		
	Precision	Recall	F-score	Precision	Recall	F-score
139 / 3	0.8759	0.8587	**0.8672**	0.9373	0.9161	**0.9266**
139 / 1	0.8747	0.8523	0.8633	0.9361	0.9083	0.9220
139 / 2	0.8775	0.8447	0.8607	0.9441	0.9051	0.9242
128 / 1	0.8544	**0.8658**	0.8600	0.9220	0.9304	0.9262
143 / 1	0.8535	0.8608	0.8571	0.9271	0.9235	0.9253
128 / 4	0.8457	0.8617	0.8536	0.9157	0.9294	0.9225
128 / 2	0.8643	0.8403	0.8521	0.9258	0.8980	0.9117
121 / 2	0.8461	0.8583	0.8521	0.9152	0.9215	0.9183
121 / 1	0.8616	0.8415	0.8515	0.9293	0.9028	0.9158
121 / 3	0.8580	0.8409	0.8494	0.9257	0.9045	0.9149
141 / 1	0.8338	0.8654	0.8493	0.8953	**0.9309**	0.9127
104 / 2	0.8687	0.8249	0.8463	0.9273	0.8791	0.9025
104 / 3	0.8692	0.8239	0.8459	0.9277	0.8761	0.9011
148 / 1	0.8692	0.8239	0.8459	0.9277	0.8761	0.9011
110 / 4	0.8394	0.8515	0.8454	0.9040	0.9229	0.9134
149 / 1	0.8226	0.8614	0.8416	0.8951	0.9204	0.9076
146 / 4	0.8219	0.8622	0.8415	0.8945	0.9235	0.9088
146 / 5	0.8222	0.8609	0.8411	0.8951	0.9204	0.9076
121 / 5	0.8618	0.8209	0.8409	0.9303	0.8822	0.9056
110 / 1	0.8354	0.8429	0.8392	0.9027	0.9186	0.9106
110 / 2	0.8421	0.8350	0.8386	0.9066	0.9081	0.9074
149 / 3	0.8639	0.8136	0.8380	0.9238	0.8682	0.8951
139 / 5	0.8706	0.8068	0.8375	0.9286	0.8566	0.8912
149 / 4	0.8644	0.8123	0.8375	0.9242	0.8650	0.8936
149 / 5	0.8641	0.8121	0.8373	0.9242	0.8651	0.8937
148 / 4	0.8835	0.7893	0.8337	0.9367	0.8341	0.8824
148 / 2	0.8824	0.7898	0.8335	0.9363	0.8371	0.8839
148 / 3	0.8828	0.7890	0.8333	0.9367	0.8345	0.8826
146 / 3	0.8280	0.8382	0.8330	0.8996	0.9031	0.9013
148 / 5	0.8270	0.8388	0.8328	0.8993	0.9061	0.9027
146 / 1	0.8273	0.8375	0.8324	0.8996	0.9031	0.9013
157 / 1	0.8476	0.8101	0.8284	0.9128	0.8670	0.8893
157 / 2	0.8476	0.8101	0.8284	0.9128	0.8670	0.8893
157 / 3	0.8476	0.8101	0.8284	0.9128	0.8670	0.8893
157 / 4	0.8476	0.8101	0.8284	0.9128	0.8670	0.8893
157 / 5	0.8476	0.8101	0.8284	0.9128	0.8670	0.8893
139 / 4	0.8720	0.7885	0.8282	0.9345	0.8359	0.8825
146 / 2	**0.9082**	0.7436	0.8177	0.9561	0.7809	0.8597
104 / 1	0.9077	0.7435	0.8174	**0.9562**	0.7812	0.8599
149 / 2	0.9069	0.7437	0.8173	0.9559	0.7835	0.8611
128 / 3	0.8440	0.7896	0.8159	0.9187	0.8541	0.8852
Benchmark	0.8440	0.7877	0.8149	0.9156	0.8492	0.8811
155 / 1	0.8312	0.7967	0.8136	0.9009	0.8596	0.8798
110 / 3	0.8505	0.7662	0.8062	0.9231	0.8295	0.8738
110 / 5	0.8372	0.7416	0.7865	0.9150	0.8081	0.8583
121 / 4	0.8345	0.7374	0.7830	0.9123	0.7993	0.8521
155 / 3*	0.7676	0.6886	0.7259	0.8881	0.8041	0.8440
155 / 2*	0.7541	0.6011	0.6690	0.8682	0.6964	0.7729
143 / 2	0.7817	0.5552	0.6493	0.8544	0.5990	0.7043
114 / 1	0.7219	0.5897	0.6492	0.8348	0.6919	0.7567

Team / Run						
130 / 1*	0.7208	0.5211	0.6049	0.8933	0.6331	0.7410
116 / 3	0.8234	0.1916	0.3109	0.9196	0.215	0.3485
116 / 1	0.8207	0.1853	0.3023	0.9143	0.2072	0.3378
116 / 2	0.8419	0.1734	0.2876	0.9291	0.1925	0.3189

Supplemental Table 2. Official chemical identification results for strict and approximate normalization measures. Runs are ordered by strict F-score, descending. Highest value in each column is marked in bold. Runs marked with an asterisk are unofficial.

	Strict			Approximate		
Team / Run	Precision	Recall	F-score	Precision	Recall	F-score
110 / 4	**0.8621**	0.7702	**0.8136**	**0.8302**	0.7867	**0.8030**
128 / 2	0.7792	0.8434	0.8101	0.7258	0.8679	0.7864
110 / 1	0.8582	0.7641	0.8084	0.8246	0.7709	0.7910
128 / 1	0.7833	0.8339	0.8078	0.7400	0.8595	0.7909
121 / 1	0.7874	0.8281	0.8072	0.7530	0.8643	0.8015
121 / 3	0.7876	0.8272	0.8069	0.7462	0.8606	0.7959
110 / 2	0.8221	0.7898	0.8056	0.7760	0.8040	0.7849
128 / 4	0.7755	0.8318	0.8027	0.7250	0.8591	0.7822
121 / 2	0.7748	0.8315	0.8021	0.7341	0.8669	0.7914
121 / 5	0.7821	0.8226	0.8019	0.7468	0.8569	0.7936
128 / 3	0.7780	0.8257	0.8011	0.7316	0.8517	0.7827
157 / 3	0.7338	0.8683	0.7954	0.6954	0.8976	0.7760
110 / 3	0.8124	0.7760	0.7938	0.7759	0.8017	0.7828
157 / 5	0.7306	0.8658	0.7925	0.6782	0.8919	0.7625
Benchmark	0.8151	0.7644	0.7889	0.7917	0.7889	0.7857
141 / 1	0.7890	0.7849	0.7870	0.7192	0.8254	0.7628
110 / 5	0.8310	0.7411	0.7835	0.8051	0.7648	0.7781
139 / 2	0.7256	0.8505	0.7831	0.7113	0.8966	0.7883
139 / 4	0.7383	0.8281	0.7806	0.7365	0.8777	0.7957
157 / 2	0.7078	**0.8698**	0.7805	0.6612	**0.9018**	0.7554
139 / 1	0.7212	0.8471	0.7791	0.7107	0.8916	0.7850
157 / 4	0.7038	0.8670	0.7769	0.6424	0.8961	0.7399
157 / 1	0.7038	0.8670	0.7769	0.6421	0.8959	0.7395
155 / 1	0.7886	0.7644	0.7763	0.7309	0.7917	0.7551
139 / 3	0.7120	0.8499	0.7749	0.6924	0.8969	0.7757
121 / 4	0.7571	0.7886	0.7725	0.7311	0.8441	0.7774
139 / 5	0.7300	0.8159	0.7705	0.7257	0.8676	0.7837
155 / 3*	0.7836	0.7243	0.7527	0.7083	0.7499	0.7227
155 / 2*	0.7634	0.7050	0.7330	0.7012	0.7323	0.7094
104 / 1	0.6720	0.7475	0.7078	0.6319	0.8097	0.7039
149 / 2	0.6645	0.7451	0.7025	0.6260	0.8174	0.7033
148 / 4	0.6481	0.7629	0.7008	0.6043	0.8281	0.6923
148 / 3	0.6477	0.7626	0.7004	0.6044	0.8284	0.6925
148 / 2	0.6401	0.7607	0.6952	0.5984	0.8348	0.6909
149 / 4	0.6306	0.7730	0.6946	0.5825	0.8385	0.6811
149 / 5	0.6303	0.7727	0.6943	0.5828	0.8392	0.6815
104 / 2	0.6248	0.7699	0.6898	0.5778	0.8466	0.6813
149 / 3	0.6225	0.7708	0.6887	0.5765	0.8456	0.6793
146 / 1	0.5931	0.7816	0.6744	0.5418	0.8558	0.6581
148 / 5	0.5871	0.7806	0.6702	0.5396	0.8616	0.6580
146 / 2	0.6298	0.7105	0.6677	0.5816	0.7806	0.6617
148 / 1	0.5939	0.7344	0.6567	0.5424	0.8156	0.6473
104 / 3	0.5939	0.7344	0.6567	0.5417	0.8153	0.6468
146 / 3	0.5587	0.7445	0.6384	0.5081	0.8312	0.6262

146 / 5	0.5497	0.7454	0.6328	0.5005	0.8337	0.6206
149 / 1	0.5496	0.7457	0.6328	0.4998	0.8334	0.6201
146 / 4	0.5467	0.7491	0.6321	0.4992	0.8402	0.6216
114 / 1	0.8334	0.4645	0.5965	0.8273	0.5279	0.6368
143 / 1	0.4326	0.6541	0.5208	0.4418	0.8108	0.5664
143 / 2	0.4393	0.5392	0.4842	0.4843	0.7222	0.5736
130 / 1*	0.4575	0.4449	0.4511	0.5461	0.6093	0.5662

Supplemental Table 3. Official chemical indexing results with both strict and approximate measures using the updated indexing. The Increase column shows the increase in F-score for the run compared with the F-score using the original MeSH indexing. Runs are ordered by strict F-score, descending. Highest value in each column is marked in bold. Runs marked with an asterisk are unofficial.

Team / Run	Strict				Approximate		
	Precision	Recall	F-score	Increase	Precision	Recall	F-score
110 / 1	0.7417	0.5141	**0.6073**	0.1409	0.7526	0.6779	0.6743
110 / 8*	0.6150	0.5808	0.5974	0.1384	0.7248	0.7513	**0.6938**
110 / 5	**0.7463**	0.4816	0.5854	**0.1417**	0.7594	0.6587	0.6680
110 / 9*	0.7309	0.4859	0.5837	0.1186	0.7496	0.6532	0.6591
128 / 1*	0.5506	0.5867	0.5681	0.0864	0.6437	0.7545	0.6507
128 / 2*	0.5458	0.5921	0.5680	0.0855	0.6396	0.7591	0.6503
110 / 10*	0.4921	0.6619	0.5645	0.1227	0.6066	0.8171	0.6502
110 / 7*	0.6335	0.4870	0.5507	0.1293	0.7163	0.6419	0.6278
110 / 4	0.7343	0.4121	0.5279	0.1298	**0.7782**	0.6036	0.6400
110 / 6*	0.5095	0.5396	0.5241	0.1280	0.6421	0.6915	0.6070
Benchmark	0.4057	**0.7005**	0.5138	0.0997	0.5233	**0.8536**	0.6135
110 / 3	0.6812	0.4048	0.5078	0.1177	0.7523	0.6020	0.6303
110 / 2	0.6721	0.4062	0.5064	0.1137	0.7372	0.5949	0.6192
157 / 1*	0.3553	0.7137	0.4745	0.0939	0.4614	0.8729	0.5687
128 / 4*	0.4624	0.4105	0.4349	0.0540	0.5257	0.5876	0.5030
128 / 3*	0.4580	0.4060	0.4304	0.0525	0.5212	0.5817	0.4981
141 / 1*	0.4958	0.3061	0.3785	0.0451	0.5459	0.4626	0.4687
157 / 2*	0.3930	0.3527	0.3718	0.0447	0.4599	0.5483	0.4537
157 / 3*	0.2719	0.2752	0.2736	0.0239	0.3812	0.4705	0.3785