

TABLE S1. Full LA-ICP-MS results for sapphires in this study. Concentrations are reported in atomic parts per million (ppma).										
Sample	Locality	Be	Mg	Ti	V	Cr	Fe	Co	Ni	Ga
AC869-A-1	Yogo Gulch, Montana	< 0.27	104	103	5.22	6.37	1550	0.038	3.77	11.2
AC869-A-1	Yogo Gulch, Montana	< 0.27	109	102	5.46	6.02	1570	0.034	3.77	11.4
AC869-A-1	Yogo Gulch, Montana	< 0.27	106	103	5.08	6.15	1550	0.033	3.93	11.0
AC870-A-1	Yogo Gulch, Montana	< 0.27	94.4	95.8	7.72	24.3	1100	0.035	3.26	11.2
AC870-A-1	Yogo Gulch, Montana	< 0.27	95.9	99.3	7.94	30.4	1130	0.029	3.25	11.1
AC870-A-1	Yogo Gulch, Montana	< 0.27	99.2	100	8.13	29.7	1120	0.028	3.28	11.1
AC871-A-1	Yogo Gulch, Montana	< 0.27	146	116	17.4	470	1200	0.034	7.67	12.2
AC871-A-1	Yogo Gulch, Montana	< 0.27	110	114	15.4	448	1200	0.029	9.18	11.8
AC871-A-1	Yogo Gulch, Montana	< 0.27	113	118	16.3	470	1240	0.045	8.89	12.5
AC872-A-1	Yogo Gulch, Montana	< 0.27	99.5	103	4.94	2.74	1120	0.031	5.47	11.1
AC872-A-1	Yogo Gulch, Montana	< 0.27	103	100	4.88	2.85	1150	0.034	5.71	11.5
AC872-A-1	Yogo Gulch, Montana	< 0.27	104	108	4.94	3.09	1120	0.019	5.95	11.0
AC873-A-1	Yogo Gulch, Montana	< 0.27	92.2	99.4	6.75	12.4	1150	0.027	9.83	11.2
AC873-A-1	Yogo Gulch, Montana	< 0.27	92.6	100	6.82	12.7	1180	0.038	10.3	11.3
AC873-A-1	Yogo Gulch, Montana	< 0.27	93.0	101	6.81	12.5	1160	0.035	9.60	11.1
AC874-A-1	Yogo Gulch, Montana	< 0.27	98.4	92.0	7.04	6.72	1430	0.027	1.88	12.4
AC874-A-1	Yogo Gulch, Montana	< 0.27	94.3	88.4	6.28	7.11	1430	0.038	1.71	12.3
AC874-A-1	Yogo Gulch, Montana	< 0.27	97.5	93.0	7.21	7.01	1490	0.028	2.12	12.8
AC875-A-1	Yogo Gulch, Montana	< 0.27	80.3	84.7	8.72	12.3	1720	0.026	2.87	19.5
AC875-A-1	Yogo Gulch, Montana	< 0.27	78.6	95.0	8.22	13.6	1660	0.073	2.71	18.2
AC875-A-1	Yogo Gulch, Montana	< 0.27	72.7	94.5	8.7	13.4	1540	0.163	3.50	16.7
AC876-A-1	Yogo Gulch, Montana	< 0.27	107	111	10.2	17.9	1540	0.035	4.04	13.4
AC876-A-1	Yogo Gulch, Montana	< 0.27	107	113	10.1	17.8	1540	0.038	4.24	13.9
AC876-A-1	Yogo Gulch, Montana	< 0.81	107	116	10.1	17.6	1590	0.045	4.47	14.4
AC877-A-1	Yogo Gulch, Montana	< 0.27	96.7	97.0	3.93	3.11	1370	0.045	3.17	12.5
AC877-A-1	Yogo Gulch, Montana	< 0.27	97.8	98.1	4.21	3.18	1420	0.033	3.33	13.2
AC877-A-1	Yogo Gulch, Montana	< 0.27	95.1	97.3	4.22	3.01	1360	0.022	3.22	12.9
AC878-A-1	Yogo Gulch, Montana	< 0.81	122	126	19.2	74.6	1410	0.017	2.81	17.8
AC878-A-1	Yogo Gulch, Montana	< 0.27	128	131	17.1	52.1	1530	0.055	3.08	16.0
AC878-A-1	Yogo Gulch, Montana	< 0.27	114	131	18.0	72.0	1380	<0.017	3.32	20.6
AC879-A-1	Yogo Gulch, Montana	< 0.27	84.2	82.4	7.87	43.6	1280	0.020	1.35	13.2
AC879-A-1	Yogo Gulch, Montana	< 0.27	85.5	81.5	8.02	45.4	1290	0.029	1.23	13.0
AC879-A-1	Yogo Gulch, Montana	< 0.27	82.6	80.9	7.79	43.1	1240	0.024	1.31	12.6
AC880-A-1	Yogo Gulch, Montana	< 0.81	114	122	10.5	203	2440	0.048	16.3	18.3
AC880-A-1	Yogo Gulch, Montana	< 0.81	117	127	11.6	191	2590	0.048	15.8	17.5
AC880-A-1	Yogo Gulch, Montana	< 0.27	114	126	13.7	232	3110	0.073	14.8	19.3
AC881-A-1	Yogo Gulch, Montana	< 0.27	103	102	6.51	41.3	1080	0.030	3.69	11.0
AC881-A-1	Yogo Gulch, Montana	< 0.27	105	104	6.54	36.4	1110	0.033	3.70	11.6
AC881-A-1	Yogo Gulch, Montana	< 0.27	103	104	6.63	34.1	1090	0.027	4.03	11.2
AC882-A-1	Yogo Gulch, Montana	< 0.27	88.1	87.1	8.59	8.75	1060	0.034	0.822	12.5
AC882-A-1	Yogo Gulch, Montana	< 0.27	86.0	84.1	9.35	13.7	1060	0.023	0.808	12.6
AC882-A-1	Yogo Gulch, Montana	< 0.27	86.4	86.2	9.63	13.8	1060	0.023	0.863	12.9
AC883-A-1	Yogo Gulch, Montana	< 0.27	82.9	76.7	3.47	8.53	1210	0.021	1.14	12.1
AC883-A-1	Yogo Gulch, Montana	< 0.27	86.4	77.3	3.40	8.52	1210	0.042	1.01	12.0
AC883-A-1	Yogo Gulch, Montana	< 0.27	82.3	76.9	3.46	8.81	1180	0.022	1.04	11.6
AC884-A-1	Yogo Gulch, Montana	< 0.27	92.4	92.7	13.7	45.9	1210	0.035	3.22	13.7
AC884-A-1	Yogo Gulch, Montana	< 0.27	92.6	96.5	13.9	46.2	1230	0.021	3.25	13.6
AC884-A-1	Yogo Gulch, Montana	< 0.27	93.5	96.0	14.1	45.6	1230	0.028	3.25	14.2
AC885-A-1	Yogo Gulch, Montana	< 0.27	81.6	78.9	3.64	15.9	1400	0.066	1.39	11.7
AC885-A-1	Yogo Gulch, Montana	< 0.27	80.8	80.0	4.09	19.0	1320	0.031	1.65	11.0
AC885-A-1	Yogo Gulch, Montana	< 0.27	83.0	82.1	3.85	16.1	1370	0.034	1.59	11.5
AC886-A-1	Yogo Gulch, Montana	< 0.27	120	129	10.8	14.4	1530	0.042	7.83	13.0
AC886-A-1	Yogo Gulch, Montana	< 0.27	132	128	8.34	60.3	1460	0.038	7.04	13.2
AC886-A-1	Yogo Gulch, Montana	< 0.27	119	127	8.24	55.7	1490	0.045	7.57	13.6
AC887-A-1	Yogo Gulch, Montana	< 0.27	106	116	11.1	51.1	1310	0.104	3.31	17.8
AC887-A-1	Yogo Gulch, Montana	< 0.27	93.3	104	11.0	56.2	1410	0.069	3.28	18.8
AC887-A-1	Yogo Gulch, Montana	< 0.27	102	121	12.7	47.8	1330	0.059	2.96	17.5
AC888-A-1	Yogo Gulch, Montana	< 0.27	90.5	99.8	18.3	32.8	1970	0.032	7.60	15.3
AC888-A-1	Yogo Gulch, Montana	< 0.27	89.2	102	18.5	32.1	1930	0.035	7.41	15.1
AC888-A-1	Yogo Gulch, Montana	< 0.27	90.8	100	19.0	32.2	2010	0.042	7.98	15.4
AC889-A-1	Yogo Gulch, Montana	< 0.27	97.1	96.0	5.41	6.73	1860	0.031	3.40	16.1
AC889-A-1	Yogo Gulch, Montana	< 0.27	90.2	89.0	5.18	6.46	1630	0.019	2.72	13.4
AC889-A-1	Yogo Gulch, Montana	< 0.27	103	90.8	5.8	5.39	2030	<0.017	3.39	17.6
AA360-A-1	Sri Lanka	< 1.0	42.9	46.6	7.33	< 0.26	318	< 0.014	< 0.095	5.70
AA360-A-1	Sri Lanka	< 1.0	45.0	52.0	7.45	< 0.26	326	< 0.014	< 0.095	5.80
AA360-A-1	Sri Lanka	< 1.0	44.4	49.2	7.27	< 0.26	315	< 0.014	< 0.095	5.64
AA355-A-1	Sri Lanka	< 1.0	77.3	85.7	4.13	< 0.26	664	< 0.014	< 0.095	33.0
AA355-A-1	Sri Lanka	< 1.0	83.0	84.6	4.17	< 0.26	640	< 0.014	< 0.095	32.7
AA355-A-1	Sri Lanka	< 1.0	87.8	87.3	3.93	< 0.26	609	< 0.014	< 0.095	29.3
AA327-A-1	Sri Lanka	< 1.0	33.0	33.0	3.72	3.56	494	< 0.014	< 0.095	18.4
AA327-A-1	Sri Lanka	< 1.0	39.6	37.9	4.14	4.22	432	< 0.014	< 0.095	19.9
AA327-A-1	Sri Lanka	< 1.0	30.7	5.16	1.09	3.40	867	< 0.014	< 0.095	14.9
AA314-A-1	Sri Lanka	< 1.0	67.4	59.9	104	61.7	617	< 0.014	< 0.095	16.9
AA314-A-1	Sri Lanka	< 1.0	72.8	65.8	141	88.5	592	< 0.014	< 0.095	16.7
AA314-A-1	Sri Lanka	< 1.0	75.2	64.9	143	77.7	601	< 0.014	< 0.095	16.9
AA301-A-1	Sri Lanka	< 1.0	85.3	564	68.2	18.7	111	< 0.014	< 0.095	10.7
AA301-A-1	Sri Lanka	< 1.0	95.4	671	76.6	32.4	117	< 0.014	< 0.095	10.9
AA301-A-1	Sri Lanka	< 1.0	102	587	91.7	33.3	124	< 0.014	< 0.095	11.7
AA367-A-1	Sri Lanka	< 1.0	75.3	76.6	3.63	< 0.26	294	< 0.014	< 0.095	16.4
AA367-A-1	Sri Lanka	< 1.0	111	110	3.88	< 0.26	298	< 0.014	< 0.095	16.3
AA367-A-1	Sri Lanka	< 1.0	107	104	3.69	< 0.26	303	< 0.014	< 0.095	16.8
AA368-A-1	Sri Lanka	< 1.0	5.21	98.3	5.51	25.6	44.4	< 0.014	< 0.095	21.2
AA368-A-1	Sri Lanka	< 1.0	8.53	141	5.87	25.8	48.5	< 0.014	< 0.095	21.3
AA368-A-1	Sri Lanka	< 1.0	16.8	257	6.05	22.8	45.3	< 0.014	< 0.095	22.1
AA263-A-1	Sri Lanka	< 1.0	51.6	45.0	3.15	< 0.26	481	< 0.014	< 0.095	24.7
AA263-A-1	Sri Lanka	< 1.0	51.2	45.1	3.12	< 0.26	481	< 0.014	< 0.095	24.8
AA277-A-1	Sri Lanka	< 1.0	51.2	51.6	27.5	9.77	771	< 0.014	< 0.095	12.1
AA277-A-1	Sri Lanka	< 1.0	50.1	52.9	28.8	12.1	761	< 0.014	< 0.095	11.6
AA241-A-1	Sri Lanka	< 1.0	79.2	91.4	18.1	< 0.26	681	< 0.014	< 0.095	52.6
AA241-A-1	Sri Lanka	< 1.0	83.2	97.6	16.7	< 0.26	663	< 0.014	< 0.095	46.9
AA241-A-1	Sri Lanka	< 1.0	71.8	76.0	16.7	< 0.26	626	< 0.014	< 0.095	42.0
AA319-A-1	Sri Lanka	< 1.0	60.9	70.6	20.5	11.5	198	< 0.014	< 0.095	33.5
AA319-A-1	Sri Lanka	< 1.0	53.1	66.5	21.1	14.4	192	< 0.014	< 0.095	35.6
AA319-A-1	Sri Lanka	< 1.0	56.5	67.5	20.8	11.4	176	< 0.014	< 0.095	34.1
AA302-A-1	Sri Lanka	< 1.0	7.07	17.5	0.731	< 0.26	380	< 0.014	< 0.095	5.58
AA302-A-1	Sri Lanka	< 1.0	7.09	15.0	0.722	< 0.26	379	< 0.014	< 0.095	5.53
AA302-A-1	Sri Lanka	< 1.0	6.82	16.7	0.703	< 0.26	361	< 0.014	< 0.095	5.49
AA380-A-1	Sri Lanka	< 1.0	17.7	483	8.69	< 0.37	1080	< 0.014	< 0.095	43.7
AA380-A-1	Sri Lanka	< 1.0	4.82	351	2.61	< 0.37	633	< 0.014	< 0.095	40.4
AA380-A-1	Sri Lanka	< 1.0	10.9	347	4.51	< 0.37	897	< 0.014	< 0.095	40.8
AA379-A-1	Sri Lanka	4.88	1.98	1066	4.18	< 0.37	554	< 0.014	< 0.095	50.2
AA379-A-1	Sri Lanka	5.67	2.23	990	7.48	< 0.37	612	< 0.014	< 0.095	47.9
AA379-A-1	Sri Lanka	11.3	8.19	232	5.14	< 0.37	239	< 0.014	< 0.095	30.1
AA377-A-1	Sri Lanka	< 0.34	30.0	30.5	7.43	< 0.37	591	< 0.014	< 0.095	3.98
AA377-A-1	Sri Lanka	< 0.34	28.1	28.1	6.71	< 0.37	570	< 0.014	< 0.095	3.86
AA377-A-1	Sri Lanka	< 0.34	27.1	28.5	7.30	< 0.37	567	< 0.014	< 0.095	4.05
AA376-A-1	Sri Lanka	< 0.34	14.8	23.9	1.77	< 1.1	1130	< 0.014	< 0.095	20.3
AA376-A-1	Sri Lanka	< 0.34	15.3	25.0	1.64					