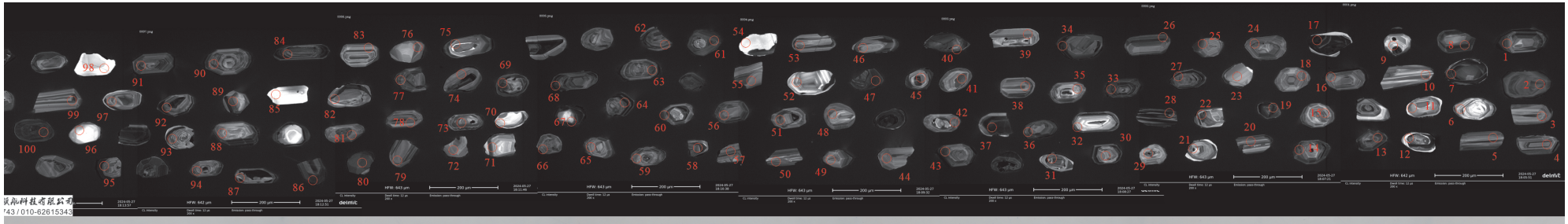
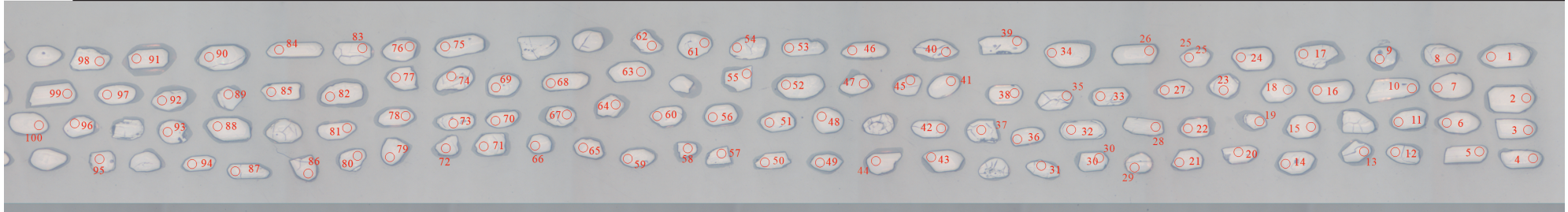
Figure S1. A) Cathodoluminescence (CL), B) transmitted-light optical, and C) reflected-light optical images of zircon grains obtained from sample IGH-32 (Coarse-grained quartz sandstone collected from the Coarse-Grained Quartz Sandstone Unit; equivalent of the Tasserda Formation) showing their internal texture, spots (red circles), and (D) apparent ages in Ma (1 error).

Sample IGH-32

A



B



C



D

Spot	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Age (Ma)	2061	1990	2067	1965	1947	2046	2376	1957	1939	2043	1898	1928	1992	2009	1994	2020	2709	2039	2039	2035
1 sigma	26	22	24	24	27	32	24	25	29	28	34	32	30	28	26	25	24	32	27	28
Spot	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
Age (Ma)	1994	2433	2065	2051	2031	1994	2051	1970	1983	1998	2043	2066	1961	2094	1967	1928	1932	1955	1905	2387
1 sigma	27	26	33	34	31	27	27	27	31	33	27	30	24	24	28	28	26	24	26	26
Spot	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
Age (Ma)	2013	1983	1992	1988	1940	1985	1969	2013	2039	2036	2048	2066	2094	2035	2057	2055	2006	2024	2102	2076
1 sigma	29	33	29	28	26	29	27	33	28	26	20	28	28	38	30	26	23	28	31	33
Spot	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80
Age (Ma)	2036	2055	2050	2055	2072	2054	2035	2039	2180	2024	1924	2039	2078	2035	2392	2161	2013	2024	2016	1954
1 sigma	30	28	22	28	31	33	29	28	26	37	43	31	29	26	25	27	30	32	30	27
Spot	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
Age (Ma)	1995	1921	2015	2035	1794	2072	2067	1992	1985	2013	1969	1987	2057	1983	1991	1836	2006	2055	1991	2161
1 sigma	27	29	29	30	50	20	26	33	35	40	32	23	33	28	31	52	29	40	28	29