Electron Microprobe Data

Rruff ID: **R050450** Mineral: **Kyanite**
Locality: Switzerland

Weight Percents

Analysis	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	Average	StDev
SiO_2	36.57	36.81	36.67	36.43	36.52	36.63	36.73	36.67	36.53	36.73	36.71	36.67	36.56	36.82	36.68	36.34	36.54	36.37	36.32	36.28	36.58	0.162
Al_2O_3	63.76	63.66	63.86	63.61	63.85	63.51	63.64	63.72	63.62	63.68	63.53	63.49	63.84	63.82	63.91	63.77	63.70	63.49	63.59	63.62	63.68	0.130
Fe_2O_3	0.18	0.17	0.28	0.14	0.25	0.18	0.19	0.11	0.21	0.19	0.23	0.15	0.21	0.20	0.12	0.19	0.23	0.16	0.16	0.22	0.19	0.042
Total	100.51	100.64	100.81	100.17	100.61	100.32	100.55	100.50	100.36	100.61	100.47	100.30	100.61	100.84	100.71	100.29	100.47	100.03	100.07	100.11	100.45	0.237

Cation Numbers on the Basis of 5 Oxygens																					ACN	StDev	NCN
Si	0.98	0.99	0.98	0.98	0.98	0.99	0.99	0.98	0.98	0.99	0.99	0.99	0.98	0.99	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.00	0.98
Al	2.02	2.01	2.02	2.02	2.02	2.01	2.01	2.02	2.02	2.01	2.01	2.01	2.02	2.01	2.02	2.02	2.02	2.02	2.02	2.02	2.02	0.00	2.02
Cations	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	0.00	3.00

Ideal Chemistry: Al_2SiO_5

Calculated Chemistry: $Al_{2.00}O(Si_{0.98}Al_{0.02})O_4$

Trace amounts of Fe

Instrument: Cameca SX50
Sample Voltage: 15 kV
Acceleration Current: 20 nA
Beam Size: Spot
Date of Analysis:03/11/06

Microprobe Calibration Data

Xtal	El	Line	Pk(s)	Bkg(s)	Bkg(+)	Bkg(-)	Standards
TAP	Al	Ka	20	10	600	-600	Kyanite
TAP	Si	Ka	20	10	600	-600	Kyanite
PET	Ti	Ka	20	10	600	-600	Rutile1
LIF	Fe	Ka	20	10	500	-250	Fayalite

ACN: Average Number of Cations
NCN: Normalized Cation Numbers =ACN*3/3.005
StDev: Standard Deviation