Appendix Table A1.
Viscosity dataset for NaAlSi3O8 melts and calculated viscosity using model abLATHD.

| | | | | | MEASURED | CALCULATED | |
Source	H_2O (wt.%)	H_2O (mol.%)	P (kbar)	T (K)	log viscosity (Pa s)	log viscosity (Pa s)	calc-obs log units
Urbain et al. (1982)	0.02	0.07	0.001	2003	2.23	2.32	0.09
Urbain et al. (1982)	0.02	0.07	0.001	1993	2.29	2.36	0.08
Urbain et al. (1982)	0.02	0.07	0.001	1940	2.53	2.62	0.09
Urbain et al. (1982)	0.02	0.07	0.001	1924	2.64	2.70	0.06
Urbain et al. (1982)	0.02	0.07	0.001	1887	2.85	2.90	0.06
Urbain et al. (1982)	0.02	0.07	0.001	1856	2.97	3.07	0.10
Urbain et al. (1982)	0.02	0.07	0.001	1811	3.29	3.34	0.05
Urbain et al. (1982)	0.02	0.07	0.001	1761	3.63	3.66	0.03
Urbain et al. (1982)	0.02	0.07	0.001	1710	3.95	4.00	0.06
Urbain et al. (1982)	0.02	0.07	0.001	1682	4.19	4.20	0.01
Urbain et al. (1982)	0.02	0.07	0.001	1612	4.74	4.75	0.01
Urbain et al. (1982)	0.02	0.07	0.001	1565	5.21	5.15	-0.06
Urbain et al. (1982)	0.02	0.07	0.001	1500	5.84	5.75	-0.09
Urbain et al. (1982)	0.02	0.07	0.001	1433	6.50	6.44	-0.06
Toplis et al. (1997)	0.02	0.07	0.001	#####	9.81	9.86	0.05
Toplis et al. (1997)	0.02	0.07	0.001	#####	10.05	10.10	0.05
Toplis et al. (1997)	0.02	0.07	0.001	#####	10.38	10.41	0.03
Toplis et al. (1997)	0.02	0.07	0.001	#####	10.58	10.55	-0.03
Toplis et al. (1997)	0.02	0.07	0.001	#####	10.95	10.88	-0.07
Holtz et al. (1999)	0.65	2.33	3.4	1648	3.23	3.14	-0.08
Holtz et al. (1999)	0.65	2.33	3.6	1598	3.46	3.42	-0.04
Holtz et al. (1999)	0.65	2.33	3.6	1548	3.66	3.72	0.06
Romano et al. (2001)	0.81	2.89	0.001	898.3	10.34	10.39	0.05
Romano et al. (2001)	0.81	2.89	0.001	891.2	10.68	10.52	-0.16
Romano et al. (2001)	0.81	2.89	0.001	880.1	10.80	10.73	-0.07
Romano et al. (2001)	0.81	2.89	0.001	860.1	11.34	11.12	-0.22
Whittington et al. (2004)	1.07	3.79	0.001	854.0	10.23	10.54	0.31
Whittington et al. (2004)	1.07	3.79	0.001	833.5	10.75	10.93	0.18
Whittington et al. (2004)	1.07	3.79	0.001	823.4	10.88	11.13	0.25

Whittington et al. (2004)	1.07	3.79	0.001	812.5	11.24	11.35	0.11
Whittington et al. (2004)	1.07	3.79	0.001	802.1	11.46	11.56	0.10
Whittington et al. (2004)	1.07	3.79	0.001	791.9	11.75	11.78	0.03
Whittington et al. (2004)	1.07	3.79	0.001	781.2	11.99	12.01	0.02
Whittington et al. (2004)	1.07	3.79	0.001	771.2	12.44	12.23	-0.21
Whittington et al. (2004)	1.87	6.48	0.001	777.5	10.21	10.58	0.37
Whittington et al. (2004)	1.87	6.48	0.001	762.4	10.56	10.88	0.32
Whittington et al. (2004)	1.87	6.48	0.001	751.7	10.84	11.10	0.26
Whittington et al. (2004)	1.87	6.48	0.001	742.2	11.14	11.29	0.15
Whittington et al. (2004)	1.87	6.48	0.001	730.8	11.36	11.54	0.18
Whittington et al. (2004)	1.87	6.48	0.001	721.6	11.70	11.74	0.04
Whittington et al. (2004)	1.87	6.48	0.001	711.6	12.07	11.97	-0.10
Whittington et al. (2004)	1.87	6.48	0.001	701.1	12.32	12.21	-0.11
Persikov et al. (1990)	1.90	6.58	0.5	1523	3.46	3.11	-0.35
Persikov et al. (1990)	1.90	6.58	4	1473	3.35	3.37	0.02
Persikov et al. (1990)	1.90	6.58	0.5	1373	4.26	3.96	-0.30
Romano et al. (2001)	1.95	6.75	0.001	812.7	10.31	9.82	-0.49
Romano et al. (2001)	1.95	6.75	0.001	806.3	10.09	9.94	-0.15
Romano et al. (2001)	1.95	6.75	0.001	783.6	11.11	10.36	-0.75
Dingwell (1987)	2.79	9.46	15.0	1673	1.57	2.07	0.50
Dingwell (1987)	2.79	9.46	22.5	1673	1.60	2.07	0.47
Dingwell (1987)	2.79	9.46	7.5	1673	1.81	2.07	0.26
Dingwell (1987)	2.79	9.46	15.0	1473	2.70	2.96	0.26
Dingwell (1987)	2.79	9.46	2.5	1473	2.85	2.96	0.11
Dingwell (1987)	2.79	9.46	7.5	1473	3.10	2.96	-0.14
Dingwell (1987)	2.79	9.46	2.5	1373	3.55	3.50	-0.05
Holtz et al. (1999)	2.80	9.49	3.1	1473	2.99	2.95	-0.04
Holtz et al. (1999)	2.80	9.49	3.1	1413	3.22	3.27	0.05
Holtz et al. (1999)	2.80	9.49	3.2	1253	4.01	4.26	0.25
Romano et al. (2001)	3.00	10.12	0.001	734.2	10.27	10.23	-0.04
Romano et al. (2001)	3.00	10.12	0.001	721.9	10.58	10.48	-0.10
Romano et al. (2001)	3.00	10.12	0.001	702.9	11.30	10.88	-0.42
Persikov et al. (1990)	4.50	14.64	2	1473	2.75	2.30	-0.45
Persikov et al. (1990)	4.50	14.64	2	1273	3.82	3.39	-0.43
Dingwell (1987)	5.58	17.70	7.5	1473	1.76	1.94	0.18
Dingwell (1987)	5.58	17.70	7.5	1273	2.75	2.99	0.24

Persikov et al. (1990)	6.90	21.24	4	1473	1.84	1.53	-0.31
Persikov et al. (1990)	6.90	21.24	4	1273	2.71	2.56	-0.15
Dingwell (1987)	8.36	24.92	7.5	1473	1.35	1.11	-0.24
Dingwell (1987)	8.36	24.92	7.5	1273	2.45	2.13	-0.32
Audétat and Keppler (200	21	49.17	16	1088	0.32	0.66	0.34
Audétat and Keppler (200	21	49.17	16	1053	0.53	0.94	0.41
Audétat and Keppler (200	21	49.17	15	1036	0.63	1.08	0.45
Audétat and Keppler (200	21	49.17	14	993	0.91	1.46	0.55
Audétat and Keppler (200	42	72.49	12	913	0.04	-0.26	-0.30
Audétat and Keppler (200	58	83.40	10	896	-0.87	-1.20	-0.33
Audétat and Keppler (200	70	89.46	14	1043	-2.49	-3.15	-0.66
Audétat and Keppler (200	88	96.39	14	976	-3.50	-3.07	0.42