JOURNAL OF APPLIED CRYSTALLOGRAPHY

Volume 49 (2016)

Supporting information for article:

Extending the single-crystal quartz pressure gauge up to hydrostatic pressure of 19 GPa

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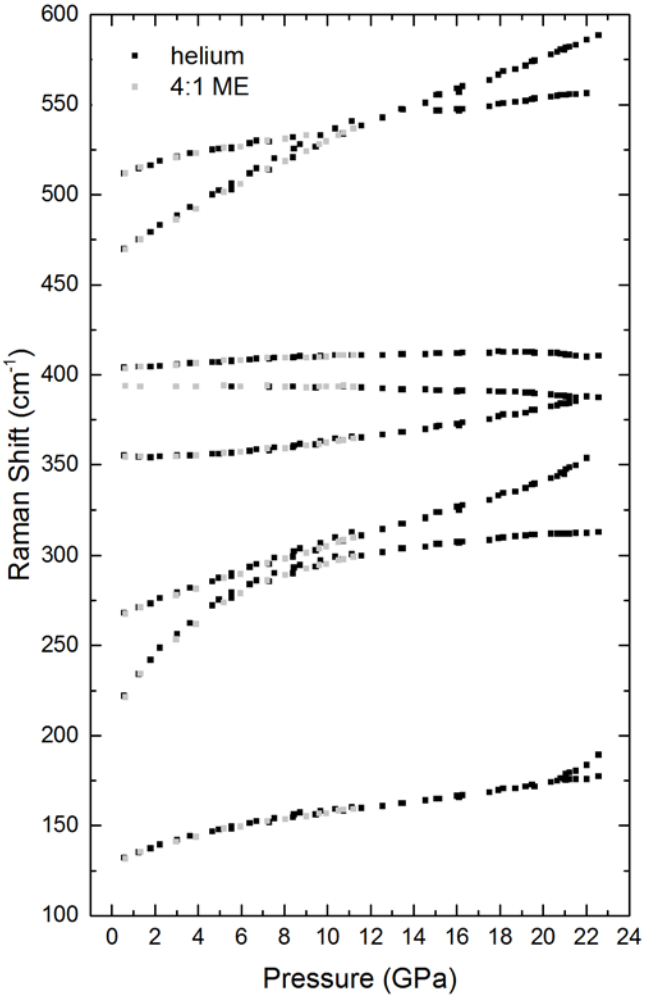

Figure S1 Plot of the Raman shifts for the bands of α-quartz as a function of pressure.

Table S1 Unit-cell parameters a, c and volume of α-quartz as a function of pressure.

(*a*) Run #1

Data point	*P* (GPa)	*a* (Å)	*c* (Å)	*V* (Å^3)
#1p00	0.0001	4.91296(5)	5.40427(8)	112.968(3)
#1p01	0.58(5)	4.88575(14)	5.38284(12)	111.277(7)
#1p02	1.22(5)	4.85766(14)	5.36079(11)	109.550(7)
#1p03	1.97(5)	4.83074(16)	5.34066(12)	107.933(7)
#1p04	2.75(5)	4.80441(14)	5.32164(12)	106.379(7)
#1p05	3.60(5)	4.77625(16)	5.30258(13)	104.759(7)
#1p06	4.79(5)	4.7409(3)	5.2797(2)	102.768(12)
#1p07	5.49(5)	4.7202(4)	5.2671(3)	101.632(16)
#1p08	6.64(5)	4.68841(12)	5.24855(10)	99.913(5)
#1p09	7.41(5)	4.6685(2)	5.2377(2)	98.862(10)
#1p10	8.31(5)	4.6471(3)	5.2261(2)	97.740(11)
#1p11	8.85(5)	4.63286(18)	5.21888(16)	97.008(8)
#1p12	9.17(5)	4.6281(7)	5.2174(6)	96.78(3)
#1p13	9.67(5)	4.6154(2)	5.2105(2)	96.123(10)
#1p14	9.89(5)	4.6105(3)	5.2079(2)	95.871(13)
#1p15	10.31(5)	4.6001(2)	5.20314(17)	95.352(9)
#1p16	10.64(5)	4.5930(7)	5.2004(6)	95.01(3)

(*b*) Run #2

Data point	*P* (GPa)	*a* (Å)	*c* (Å)	*V* (Å^3)
#2p00	0.0001	4.91460(18)	5.4060(3)	113.080(10)
#2p01	0.57(5)	4.8866(5)	5.3860(8)	111.38(3)
#2p02	1.25(5)	4.8593(3)	5.3628(5)	109.664(17)
#2p03	1.79(5)	4.8383(4)	5.3477(9)	108.42(2)
#2p04	2.23(5)	4.8199(3)	5.3329(4)	107.291(14)
#2p05	3.03(5)	4.7947(3)	5.3152(4)	105.822(13)
#2p06	3.62(5)	4.77463(17)	5.3022(3)	104.68(10)
#2p07	4.67(5)	4.7436(4)	5.2819(6)	102.93(2)
#2p08	4.97(5)	4.7337(4)	5.2764(6)	102.392(19)
#2p09	5.55(5)	4.7158(3)	5.2652(5)	101.405(15)
#2p10	6.40(5)	4.6947(2)	5.2531(3)	100.267(11)
#2p11	6.71(5)	4.68357(19)	5.2479(3)	99.695(10)
#2p12	7.54(5)	4.66289(17)	5.2354(3)	98.581(9)
#2p13	8.44(5)	4.6413(3)	5.2244(6)	97.464(17)
#2p14	8.72(5)	4.6351(3)	5.2213(6)	97.144(15)
#2p15	9.68(5)	4.6128(2)	5.2102(3)	96.010(11)
#2p16	10.36(5)	4.5983(3)	5.2030(5)	95.275(13)
#2p17	11.13(5)	4.5821(3)	5.1964(6)	94.486(14)
#2p18	11.57(5)	4.5730(3)	5.1921(4)	94.033(14)
#2p19	12.40(5)	4.5559(3)	5.1862(13)	93.22(2)

(*c*) Run #3

Data point	*P* (GPa)	*a* (Å)	*c* (Å)	*V* (Å^3)
#3p00	0.0001	4.9147(5)	5.4067(8)	113.10(3)
#3p01	5.11(5)	4.73069(10)	5.27291(14)	102.195(5)
#3p02	6.72(5)	4.6876(12)	5.2462(19)	99.83(6)
#3p03	7.74(5)	4.66194(16)	5.2337(2)	98.508(8)
#3p04	8.71(5)	4.63767(19)	5.2209(3)	97.247(10)
#3p05	9.89(5)	4.61223(16)	5.2090(2)	95.964(8)
#3p06	10.66(5)	4.5954(4)	5.2001(6)	95.100(18)
#3p07	11.56(5)	4.5758(2)	5.1918(3)	94.144(10)
#3p08	12.37(5)	4.55707(17)	5.1835(3)	93.224(8)
#3p09	12.43(5)	4.5582(2)	5.1840(4)	93.276(11)
#3p10	13.39(5)	4.53652(17)	5.1749(2)	92.231(8)
#3p11	13.97(5)	4.52652(15)	5.1699(3)	91.736(8)
#3p12	14.74(5)	4.51161(18)	5.1640(3)	91.028(8)
#3p13	13.86(10)	4.52752(17)	5.1713(2)	91.801(8)
#3p14	14.83(5)	4.5096(2)	5.1635(3)	90.940(10)
#3p15	14.97(5)	4.5064(4)	5.1607(5)	90.760(17)
#3p16	15.50(5)	4.49737(18)	5.1581(3)	90.352(8)
#3p17	16.12(5)	4.4850(2)	5.1533(3)	89.773(10)
#3p18	16.51(5)	4.4792(2)	5.1512(3)	89.504(9)
#3p19	16.72(5)	4.4752(3)	5.1494(3)	89.314(12)
#3p20	17.22(5)	4.4670(2)	5.1457(3)	88.921(10)
#3p21	17.94(5)	4.4556(2)	5.1410(3)	88.389(9)
#3p22	18.06(5)	4.4527(3)	5.1392(3)	88.240(12)
#3p23	18.75(5)	4.4403(6)	5.1369(6)	87.71(2)
#3p24	19.01(5)	4.4370(7)	5.1350(7)	87.55(3)
#3p25	19.31(5)	4.4319(6)	5.1339(7)	87.33(2)
#3p26	19.17(5)	4.4309(8)	5.1337(9)	87.29(3)

(*d*) Run #4

Data point	*P* (GPa)	*a* (Å)	*c* (Å)	*V* (Å^3)
#4p00	0.0001	4.9097(13)	5.4028(15)	112.79(5)
#4p01	2.06(10)	4.8236(4)	5.336(5)	107.524(16)
#4p02	2.82(10)	4.7965(2)	5.3156(3)	105.910(9)
#4p03	5.49(10)	4.71148(18)	5.2606(3)	101.129(7)
#4p04	7.05(10)	4.6731(3)	5.2394(4)	99.089(11)
#4p05	8.56(10)	4.6355(4)	5.2202(5)	97.143(15)
#4p06	9.65(10)	4.6109(5)	5.209(8)	95.91(2)
#4p07	10.68(10)	4.5898(3)	5.1979(5)	94.828(14)
#4p08	11.92(10)	4.564(4)	5.1854(7)	93.541(16)
#4p09	12.42(10)	4.5519(3)	5.1795(4)	92.938(11)
#4p10	13.58(10)	4.52930(19)	5.1698(3)	91.848(8)
#4p11	14.68(10)	4.5085(4)	5.1606(8)	90.845(17)
#4p12	15.81(10)	4.4900(3)	5.1527(5)	89.960(12)

(*e*) Run #5

Data point	*P* (GPa)	*a* (Å)	*c* (Å)	*V* (Å^3)
#5p00	0.0001	4.9120(2)	5.4044(6)	112.926(12)
#5p01	3.06(10)	4.79214(18)	5.31198(4)	105.644(8)
#5p02	3.94(10)	4.76037(9)	5.2917(2)	103.849(4)
#5p03	4.28(10)	4.75344(13)	5.2869(3)	103.453(6)
#5p04	4.82(10)	4.7376(2)	5.2775(4)	102.580(9)
#5p05	5.46(10)	4.71953(11)	5.2661(3)	101.582(5)
#5p06	6.27(10)	4.69696(16)	5.2527(4)	100.357(7)
#5p07	7.22(10)	4.6702(3)	5.2380(6)	98.940(11)
#5p08	7.76(10)	4.6583(2)	5.2321(5)	98.326(9)
#5p09	8.57(10)	4.64174(19)	5.2227(5)	97.451(9)
#5p10	9.85(10)	4.61166(13)	5.2080(3)	95.922(6)
#5p11	10.10(10)	4.60680(12)	5.2059(3)	95.680(6)
#5p12	11.57(10)	4.5742(2)	5.1920(4)	94.081(7)

(*f*) Run #6

Data point	*P* (GPa)	*a* (Å)	*c* (Å)	*V* (Å^3)
#6p00	0.0001	4.91287(13)	5.4043(3)	112.963(7)
#6p01	1.02(10)	4.86520(15)	5.366(2)	109.989(8)
#6p02	1.87(10)	4.83014(17)	5.3400(2)	107.893(9)
#6p03	3.43(10)	4.77698(14)	5.30280(19)	104.796(7)
#6p04	4.22(10)	4.75143(15)	5.2860(2)	103.348(8)
#6p05	6.13(10)	4.6978(2)	5.2536(2)	100.407(10)
#6p06	6.89(10)	4.67958(17)	5.2427(2)	99.426(8)
#6p07	8.12(10)	4.65157(19)	5.2284(3)	97.972(9)
#6p08	9.17(10)	4.6255(2)	5.2167(3)	96.659(11)