

**Table S3 Obtained volumes and densities of solid Fe.**

Run No.	T [K]	V [cm <sup>3</sup> ]	$\rho$ [g/cm <sup>3</sup> ]	error [g/cm <sup>3</sup> ]
AK15 (M=147.88 mg)*	773	0.01914	7.727	0.040
	823	0.01919	7.704	0.037
	873	0.01922	7.693	0.057
	923	0.01927	7.676	0.045
	973	0.01930	7.661	0.045
	1023	0.01936	7.639	0.049
	1073	0.01939	7.627	0.037
	1123	0.01943	7.609	0.051
	1173	0.01931	7.656	0.033
	1223	0.01939	7.627	0.031
	1273	0.01944	7.608	0.046
	1323	0.01948	7.592	0.048
AK16 (M=138.21 mg)*	823	0.01794	7.705	0.023
	873	0.01797	7.690	0.024
	923	0.01802	7.671	0.024
	973	0.01806	7.654	0.023
	1023	0.01811	7.631	0.024
	1073	0.01814	7.620	0.023
	1123	0.01818	7.604	0.024
	1173	0.01807	7.650	0.023
	1223	0.01811	7.631	0.023
	1273	0.01816	7.612	0.023
	1323	0.01820	7.595	0.024
	1373	0.01827	7.563	0.024
	1423	0.01832	7.545	0.023
	1473	0.01837	7.524	0.024
	1523	0.01844	7.494	0.023
	1598	0.01854	7.453	0.024
	1633	0.01858	7.439	0.022
	1643	0.01859	7.434	0.023
	1653	0.01861	7.428	0.023
	1663	0.01863	7.419	0.024
	1683	0.01878	7.359	0.023
	1693	0.01879	7.354	0.022
	1703	0.01881	7.348	0.024
	1713	0.01883	7.341	0.022
	1723	0.01884	7.336	0.024
	1728	0.01885	7.334	0.022
	1733	0.01886	7.329	0.023
	1738	0.01887	7.324	0.023
	1743	0.01888	7.320	0.024
	1748	0.01888	7.319	0.023
	1753	0.01890	7.314	0.022
	1758	0.01891	7.309	0.024
	1763	0.01892	7.305	0.024
	1773	0.01893	7.300	0.022
	1778	0.01894	7.298	0.023
	1783	0.01895	7.294	0.023
	1788	0.01896	7.291	0.024
	1793	0.01896	7.288	0.023
	1794	0.01898	7.283	0.022
	1795	0.01898	7.283	0.024
	1796	0.01898	7.283	0.022
	1797	0.01898	7.283	0.024
	1798	0.01898	7.283	0.022
AK18 (M=163.31 mg)*	295	0.02076	7.868	0.009
	373	0.02079	7.853	0.009
	423	0.02084	7.835	0.009
	473	0.02090	7.815	0.009
	523	0.02094	7.797	0.009

	573	0.02100	7.777	0.009
	623	0.02105	7.759	0.008
	673	0.02109	7.744	0.009
	723	0.02113	7.728	0.009
	773	0.02118	7.711	0.009
	823	0.02124	7.691	0.009
	873	0.02128	7.673	0.009
	923	0.02133	7.658	0.009
	973	0.02137	7.643	0.009
	1023	0.02140	7.632	0.009
	1073	0.02145	7.614	0.009
	1123	0.02149	7.599	0.009
	1153	0.02153	7.587	0.009
	1163	0.02133	7.657	0.009
	1173	0.02134	7.653	0.009
	1223	0.02140	7.631	0.008
	1273	0.02147	7.607	0.009
	1323	0.02153	7.586	0.009
	1373	0.02159	7.565	0.009
	1423	0.02168	7.534	0.009
	1473	0.02176	7.504	0.009
	1523	0.02182	7.486	0.009
	1573	0.02190	7.458	0.008
	1623	0.02198	7.428	0.009
	1653	0.02205	7.407	0.009
	1663	0.02206	7.403	0.009
	1666.5	0.02206	7.403	0.009
	1668	0.02217	7.365	0.009
	1673	0.02220	7.356	0.009
	1723	0.02228	7.330	0.009
	1733	0.02230	7.322	0.009
	1743	0.02231	7.319	0.009
	1753	0.02233	7.313	0.009
	1763	0.02235	7.307	0.009
	1773	0.02237	7.301	0.009
	1783	0.02238	7.296	0.009
	1793	0.02239	7.293	0.009
	1803	0.02241	7.288	0.009
AK19 (M=164.00 mg)*	1623	0.02208	7.429	0.011
	1633	0.02210	7.421	0.011
	1643	0.02211	7.416	0.011
	1653	0.02213	7.410	0.010
	1660	0.02215	7.404	0.010
	1663	0.02215	7.403	0.011
	1668	0.02227	7.364	0.011
	1670	0.02228	7.362	0.010
	1672	0.02228	7.360	0.010
	1673	0.02228	7.360	0.011
	1683	0.02229	7.357	0.011
	1693	0.02231	7.350	0.011
	1703	0.02232	7.346	0.011
	1713	0.02233	7.343	0.011
	1723	0.02236	7.336	0.011
	1733	0.02237	7.331	0.011
	1743	0.02239	7.323	0.011
	1753	0.02241	7.317	0.011
	1763	0.02243	7.312	0.011
	1773	0.02245	7.306	0.011
	1783	0.02248	7.296	0.012
	1793	0.02250	7.289	0.012
	1803	0.02251	7.284	0.012

\*M is measured initial mass.