

Appendix A. Densities calculated for each single buoyancy measurements resulting from three separate immersions for each bob (large and small bob). These single density values have been computed in order to determine a mean density and a standard deviation for each melt and each temperature that are reported in Table 2.

<i>Samples</i>	<i>T (K)</i>	<i># 1</i>	<i># 2</i>	<i># 3</i>	<i># 4</i>	<i># 5</i>	<i># 6</i>	<i># 7</i>	<i># 8</i>	<i># 9</i>
NS-5Ce	1552	2.325	2.320	2.319	2.315	2.310	2.309	2.314	2.309	2.308
	1502	2.336	2.334	2.334	2.324	2.322	2.322	2.325	2.323	2.323
	1455	2.348	2.343	2.345	2.335	2.330	2.332	2.338	2.333	2.336
	1406	2.358	2.353	2.351	2.345	2.340	2.338	2.348	2.343	2.341
NS-10Ce	1553	2.399	2.395	2.385	2.405	2.401	2.392	2.412	2.408	2.399
	1505	2.414	2.408	2.404	2.424	2.418	2.414	2.422	2.417	2.412
	1456	2.424	2.420	2.415	2.435	2.430	2.425	2.433	2.428	2.424
	1409	2.434	2.429	2.422	2.446	2.442	2.435	2.445	2.440	2.433
NS-5Pr	1556	2.330	2.329	2.329	2.324	2.323	2.323	2.325	2.324	2.324
	1507	2.343	2.339	2.342	2.336	2.332	2.335	2.338	2.334	2.336
	1459	2.352	2.347	2.351	2.348	2.343	2.347	2.351	2.346	2.350
	1411	2.361	2.355	2.360	2.356	2.350	2.355	2.361	2.355	2.360
NS-25Pr	1553	2.675	2.662	2.667	2.681	2.669	2.674	2.677	2.665	2.669
	1503	2.688	2.678	2.676	2.696	2.685	2.683	2.695	2.685	2.683
	1466	2.699	2.693	2.687	2.706	2.700	2.694	2.703	2.697	2.692
	1431	2.706	2.698	2.708	2.706	2.698	2.698	2.706	2.697	2.697
	1407	2.716	2.708	2.700	2.721	2.712	2.704	2.719	2.711	2.703
NS-5Nd	1551	2.317	2.317	2.314	2.322	2.321	2.319	2.312	2.312	2.309
	1503	2.332	2.336	2.331	2.343	2.347	2.342	2.326	2.330	2.325
	1454	2.346	2.346	2.344	2.358	2.359	2.357	2.336	2.337	2.334
	1407	2.355	2.355	2.351	2.367	2.367	2.363	2.348	2.348	2.344

NS-25Nd	1565	2.710	2.712	2.718	2.711	2.713	2.720	2.716	2.718	2.725
	1515	2.723	2.724	2.731	2.724	2.725	2.732	2.729	2.729	2.737
	1472	2.734	2.743	2.746	2.734	2.744	2.747	2.740	2.749	2.752
	1417	2.751	2.759	2.762	2.751	2.759	2.762	2.754	2.762	2.765
	1368	2.756	2.770	2.769	2.763	2.777	2.776	2.768	2.782	2.781
	1345	2.767	2.769	2.775	2.768	2.770	2.776	2.778	2.781	2.786
NS-5Sm	1551	2.328	2.319	2.323	2.324	2.315	2.319	2.334	2.324	2.329
	1503	2.337	2.328	2.331	2.333	2.323	2.327	2.341	2.331	2.334
	1454	2.345	2.336	2.341	2.340	2.331	2.336	2.348	2.339	2.344
	1406	2.355	2.345	2.351	2.349	2.339	2.345	2.357	2.347	2.353
NS-25Sm	1558	2.733	2.726	2.727	2.748	2.741	2.741	2.741	2.734	2.734
	1509	2.749	2.737	2.742	2.766	2.754	2.759	2.753	2.742	2.747
	1467	2.763	2.751	2.757	2.779	2.767	2.774	2.767	2.755	2.762
	1412	2.774	2.761	2.769	2.794	2.780	2.788	2.782	2.768	2.776
	1364	2.785	2.776	2.781	2.802	2.794	2.798	2.792	2.784	2.788
NS-5Eu	1556	2.325	2.326	2.320	2.328	2.329	2.323	2.332	2.332	2.327
	1507	2.336	2.333	2.334	2.336	2.334	2.335	2.342	2.340	2.341
	1468	2.352	2.352	2.349	2.349	2.349	2.346	2.351	2.351	2.348
	1411	2.365	2.367	2.363	2.360	2.361	2.357	2.358	2.360	2.356
NS-25Eu	1556	2.734	2.739	2.742	2.732	2.737	2.740	2.738	2.743	2.745
	1507	2.747	2.752	2.751	2.748	2.753	2.751	2.744	2.748	2.747
	1469	2.754	2.761	2.759	2.754	2.761	2.759	2.752	2.759	2.757
	1437	2.763	2.770	2.769	2.758	2.765	2.764	2.762	2.769	2.768
NS-5Gd	1556	2.325	2.321	2.324	2.330	2.326	2.328	2.318	2.315	2.317
	1506	2.333	2.330	2.333	2.340	2.337	2.340	2.324	2.321	2.324
	1469	2.343	2.339	2.341	2.352	2.348	2.349	2.334	2.330	2.331
	1410	2.355	2.353	2.350	2.362	2.361	2.358	2.343	2.342	2.339
NS-25Gd	1555	2.754	2.756	2.752	2.747	2.749	2.744	2.768	2.770	2.765
	1507	2.771	2.766	2.768	2.767	2.762	2.764	2.783	2.778	2.779

	1468	2.785	2.781	2.781	2.786	2.782	2.782	2.797	2.794	2.794
	1411	2.802	2.795	2.795	2.804	2.796	2.797	2.814	2.807	2.807
	1388	2.805	2.801	2.805	2.805	2.801	2.805	2.814	2.810	2.814
NS-5Tb	1551	2.316	2.323	2.326	2.318	2.325	2.328	2.313	2.320	2.323
	1503	2.319	2.324	2.328	2.330	2.335	2.339	2.321	2.326	2.330
	1453	2.328	2.334	2.336	2.342	2.348	2.350	2.332	2.338	2.340
	1407	2.343	2.350	2.350	2.349	2.357	2.356	2.338	2.346	2.345
NS-25Tb	1553	2.791	2.780	2.786	2.792	2.780	2.787	2.792	2.780	2.786
	1506	2.794	2.797	2.799	2.793	2.796	2.798	2.794	2.798	2.799
	1467	2.801	2.804	2.809	2.797	2.800	2.805	2.798	2.801	2.806
NS-5Dy	1552	2.328	2.328	2.326	2.326	2.326	2.325	2.333	2.333	2.332
	1503	2.339	2.342	2.342	2.337	2.340	2.340	2.344	2.346	2.347
	1454	2.349	2.351	2.354	2.348	2.350	2.353	2.354	2.356	2.359
	1407	2.358	2.363	2.363	2.358	2.363	2.363	2.366	2.371	2.371
NS25Dy	1555	2.764	2.757	2.764	2.766	2.759	2.766	2.780	2.773	2.780
	1507	2.781	2.777	2.784	2.783	2.779	2.786	2.789	2.785	2.792
	1467	2.795	2.789	2.796	2.794	2.788	2.795	2.804	2.799	2.805
	1410	2.803	2.801	2.804	2.803	2.801	2.804	2.815	2.812	2.816
	1386	2.804	2.802	2.806	2.805	2.803	2.806	2.818	2.815	2.819
NS-5Ho	1551	2.347	2.337	2.337	2.336	2.327	2.326	2.342	2.333	2.332
	1502	2.352	2.349	2.347	2.343	2.340	2.338	2.348	2.345	2.343
	1454	2.362	2.358	2.357	2.353	2.348	2.348	2.359	2.354	2.353
	1406	2.371	2.368	2.367	2.364	2.360	2.359	2.369	2.365	2.364
NS-25Ho	1552	2.776	2.785	2.780	2.781	2.790	2.786	2.785	2.794	2.789
	1502	2.802	2.796	2.794	2.809	2.803	2.801	2.810	2.804	2.802
	1456	2.801	2.807	2.806	2.813	2.818	2.817	2.813	2.818	2.817
	1438	2.808	2.814	2.814	2.815	2.821	2.820	2.817	2.823	2.822
	1416	2.811	2.814	2.817	2.819	2.822	2.826	2.820	2.823	2.826

NS-5Er	1551	2.335	2.331	2.332	2.337	2.333	2.334	2.343	2.339	2.340
	1503	2.344	2.345	2.347	2.343	2.344	2.346	2.348	2.348	2.351
	1458	2.348	2.350	2.352	2.352	2.354	2.356	2.355	2.357	2.359
	1435	2.354	2.354	2.354	2.357	2.358	2.358	2.361	2.361	2.361
	1411	2.355	2.357	2.357	2.360	2.362	2.362	2.363	2.365	2.365
NS-25Er	1552	2.790	2.791	2.788	2.786	2.786	2.784	2.789	2.790	2.787
	1502	2.808	2.807	2.805	2.804	2.803	2.801	2.806	2.805	2.803
	1456	2.820	2.819	2.814	2.819	2.818	2.812	2.817	2.816	2.811
	1438	2.824	2.821	2.819	2.822	2.818	2.817	2.824	2.820	2.818
	1416	2.835	2.831	2.825	2.830	2.826	2.819	2.831	2.826	2.820
NS-5Tm	1541	2.331	2.325	2.328	2.335	2.33	2.336	2.333	2.328	2.334
	1495	2.340	2.343	2.344	2.343	2.346	2.346	2.341	2.343	2.344
	1449	2.345	2.350	2.350	2.349	2.355	2.354	2.349	2.355	2.354
	1426	2.354	2.352	2.350	2.359	2.357	2.355	2.359	2.357	2.355
NS-25Tm	1555	2.808	2.802	2.794	2.815	2.810	2.801	2.825	2.819	2.811
	1507	2.812	2.810	2.798	2.825	2.823	2.812	2.828	2.826	2.814
	1482	2.823	2.814	2.809	2.834	2.826	2.820	2.835	2.826	2.821
	1468	2.822	2.817	2.810	2.835	2.829	2.823	2.837	2.831	2.824
NS-5Yb	1544	2.330	2.335	2.333	2.336	2.341	2.339	2.335	2.340	2.338
	1497	2.342	2.346	2.345	2.348	2.351	2.350	2.345	2.348	2.347
	1450	2.353	2.357	2.354	2.356	2.360	2.357	2.354	2.358	2.355
	1426	2.354	2.358	2.357	2.362	2.365	2.364	2.357	2.360	2.359
NS-25Yb	1552	2.802	2.784	2.790	2.815	2.796	2.803	2.814	2.796	2.802
	1504	2.799	2.798	2.808	2.806	2.805	2.815	2.809	2.808	2.818
	1465	2.808	2.807	2.815	2.815	2.814	2.821	2.830	2.828	2.836
	1432	2.817	2.816	2.814	2.817	2.816	2.814	2.839	2.838	2.836

Appendix B. Data relevant to the present melts used for the separate linear regressions along the various Na-disilicate - lanthanide sesquioxides binary joins that allow to obtain the partial molar volumes of the lanthanide sesquioxides given in Tables 4 and 5.

<i>Samples</i>	<i>T (K)</i>	<i>V</i>	<i>SiO₂[#]</i>	<i>LanthOx^{#*}</i>	<i>Na₂O[#]</i>
NS2	1300	26.306	0.6843	0.0000	0.3157
NS2	1350	26.437	0.6843	0.0000	0.3157
NS2	1400	26.569	0.6843	0.0000	0.3157
NS2	1450	26.702	0.6843	0.0000	0.3157
NS2	1500	26.837	0.6843	0.0000	0.3157
NS2	1550	26.973	0.6843	0.0000	0.3157
NS2	1600	27.111	0.6843	0.0000	0.3157
NS-5Ce	1300	26.704	0.6624	0.0097	0.3279
NS-5Ce	1350	26.829	0.6624	0.0097	0.3279
NS-5Ce	1400	26.955	0.6624	0.0097	0.3279
NS-5Ce	1450	27.082	0.6624	0.0097	0.3279
NS-5Ce	1500	27.211	0.6624	0.0097	0.3279
NS-5Ce	1550	27.340	0.6624	0.0097	0.3279
NS-5Ce	1600	27.471	0.6624	0.0097	0.3279
NS-10Ce	1300	26.900	0.6539	0.0208	0.3253
NS-10Ce	1350	27.035	0.6539	0.0208	0.3253
NS-10Ce	1400	27.172	0.6539	0.0208	0.3253
NS-10Ce	1450	27.311	0.6539	0.0208	0.3253
NS-10Ce	1500	27.451	0.6539	0.0208	0.3253
NS-10Ce	1550	27.592	0.6539	0.0208	0.3253
NS-10Ce	1600	27.735	0.6539	0.0208	0.3253
NS-5Pr	1300	26.764	0.6646	0.0113	0.3241
NS-5Pr	1350	26.886	0.6646	0.0113	0.3241
NS-5Pr	1400	27.008	0.6646	0.0113	0.3241
NS-5Pr	1450	27.132	0.6646	0.0113	0.3241

NS-5Pr	1500	27.257	0.6646	0.0113	0.3241
NS-5Pr	1550	27.383	0.6646	0.0113	0.3241
NS-5Pr	1600	27.511	0.6646	0.0113	0.3241
NS-25Pr	1300	28.168	0.6245	0.0609	0.3145
NS-25Pr	1350	28.302	0.6245	0.0609	0.3145
NS-25Pr	1400	28.438	0.6245	0.0609	0.3145
NS-25Pr	1450	28.574	0.6245	0.0609	0.3145
NS-25Pr	1500	28.713	0.6245	0.0609	0.3145
NS-25Pr	1550	28.852	0.6245	0.0609	0.3145
NS-25Pr	1600	28.993	0.6245	0.0609	0.3145
NS-5Nd	1300	26.547	0.6599	0.0095	0.3306
NS-5Nd	1350	26.696	0.6599	0.0095	0.3306
NS-5Nd	1400	26.847	0.6599	0.0095	0.3306
NS-5Nd	1450	26.999	0.6599	0.0095	0.3306
NS-5Nd	1500	27.153	0.6599	0.0095	0.3306
NS-5Nd	1550	27.309	0.6599	0.0095	0.3306
NS-5Nd	1600	27.467	0.6599	0.0095	0.3306
NS-25Nd	1300	27.324	0.6344	0.0562	0.3095
NS-25Nd	1350	27.458	0.6344	0.0562	0.3095
NS-25Nd	1400	27.594	0.6344	0.0562	0.3095
NS-25Nd	1450	27.731	0.6344	0.0562	0.3095
NS-25Nd	1500	27.870	0.6344	0.0562	0.3095
NS-25Nd	1550	28.010	0.6344	0.0562	0.3095
NS-25Nd	1600	28.151	0.6344	0.0562	0.3095
NS-5Sm	1300	26.831	0.6659	0.0097	0.3244
NS-5Sm	1350	26.928	0.6659	0.0097	0.3244
NS-5Sm	1400	27.027	0.6659	0.0097	0.3244
NS-5Sm	1450	27.126	0.6659	0.0097	0.3244
NS-5Sm	1500	27.225	0.6659	0.0097	0.3244
NS-5Sm	1550	27.326	0.6659	0.0097	0.3244
NS-5Sm	1600	27.427	0.6659	0.0097	0.3244

NS-25Sm	1300	27.326	0.6343	0.0556	0.3101
NS-25Sm	1350	27.460	0.6343	0.0556	0.3101
NS-25Sm	1400	27.595	0.6343	0.0556	0.3101
NS-25Sm	1450	27.731	0.6343	0.0556	0.3101
NS-25Sm	1500	27.869	0.6343	0.0556	0.3101
NS-25Sm	1550	28.008	0.6343	0.0556	0.3101
NS-25Sm	1600	28.149	0.6343	0.0556	0.3101
NS-5Eu	1300	26.515	0.6647	0.0090	0.3263
NS-5Eu	1350	26.649	0.6647	0.0090	0.3263
NS-5Eu	1400	26.785	0.6647	0.0090	0.3263
NS-5Eu	1450	26.922	0.6647	0.0090	0.3263
NS-5Eu	1500	27.061	0.6647	0.0090	0.3263
NS-5Eu	1550	27.201	0.6647	0.0090	0.3263
NS-5Eu	1600	27.342	0.6647	0.0090	0.3263
NS-25Eu	1300	27.536	0.6189	0.0556	0.3255
NS-25Eu	1350	27.643	0.6189	0.0556	0.3255
NS-25Eu	1400	27.751	0.6189	0.0556	0.3255
NS-25Eu	1450	27.860	0.6189	0.0556	0.3255
NS-25Eu	1500	27.970	0.6189	0.0556	0.3255
NS-25Eu	1550	28.081	0.6189	0.0556	0.3255
NS-25Eu	1600	28.192	0.6189	0.0556	0.3255
NS-5Gd	1300	26.717	0.6645	0.0090	0.3265
NS-5Gd	1350	26.832	0.6645	0.0090	0.3265
NS-5Gd	1400	26.948	0.6645	0.0090	0.3265
NS-5Gd	1450	27.065	0.6645	0.0090	0.3265
NS-5Gd	1500	27.182	0.6645	0.0090	0.3265
NS-5Gd	1550	27.301	0.6645	0.0090	0.3265
NS-5Gd	1600	27.421	0.6645	0.0090	0.3265
NS-25Gd	1300	27.042	0.6311	0.0529	0.3159
NS-25Gd	1350	27.191	0.6311	0.0529	0.3159

NS-25Gd	1400	27.341	0.6311	0.0529	0.3159
NS-25Gd	1450	27.493	0.6311	0.0529	0.3159
NS-25Gd	1500	27.647	0.6311	0.0529	0.3159
NS-25Gd	1550	27.802	0.6311	0.0529	0.3159
NS-25Gd	1600	27.959	0.6311	0.0529	0.3159
NS-5Tb	1300	26.791	0.6603	0.0089	0.3308
NS-5Tb	1350	26.900	0.6603	0.0089	0.3308
NS-5Tb	1400	27.009	0.6603	0.0089	0.3308
NS-5Tb	1450	27.119	0.6603	0.0089	0.3308
NS-5Tb	1500	27.230	0.6603	0.0089	0.3308
NS-5Tb	1550	27.342	0.6603	0.0089	0.3308
NS-5Tb	1600	27.455	0.6603	0.0089	0.3308
NS-25Tb	1300	27.448	0.6173	0.0561	0.3266
NS-25Tb	1350	27.544	0.6173	0.0561	0.3266
NS-25Tb	1400	27.641	0.6173	0.0561	0.3266
NS-25Tb	1450	27.739	0.6173	0.0561	0.3266
NS-25Tb	1500	27.837	0.6173	0.0561	0.3266
NS-25Tb	1550	27.936	0.6173	0.0561	0.3266
NS-25Tb	1600	28.036	0.6173	0.0561	0.3266
NS-5Dy	1300	26.682	0.6618	0.0099	0.3284
NS-5Dy	1350	26.820	0.6618	0.0099	0.3284
NS-5Dy	1400	26.959	0.6618	0.0099	0.3284
NS-5Dy	1450	27.100	0.6618	0.0099	0.3284
NS-5Dy	1500	27.243	0.6618	0.0099	0.3284
NS-5Dy	1550	27.386	0.6618	0.0099	0.3284
NS-5Dy	1600	27.532	0.6618	0.0099	0.3284
NS-25Dy	1300	27.783	0.6245	0.0576	0.3179
NS-25Dy	1350	27.903	0.6245	0.0576	0.3179
NS-25Dy	1400	28.023	0.6245	0.0576	0.3179
NS-25Dy	1450	28.145	0.6245	0.0576	0.3179
NS-25Dy	1500	28.268	0.6245	0.0576	0.3179

NS-25Dy	1550	28.392	0.6245	0.0576	0.3179
NS-25Dy	1600	28.518	0.6245	0.0576	0.3179
NS-5Ho	1300	26.632	0.6626	0.0090	0.3284
NS-5Ho	1350	26.748	0.6626	0.0090	0.3284
NS-5Ho	1400	26.865	0.6626	0.0090	0.3284
NS-5Ho	1450	26.983	0.6626	0.0090	0.3284
NS-5Ho	1500	27.102	0.6626	0.0090	0.3284
NS-5Ho	1550	27.222	0.6626	0.0090	0.3284
NS-5Ho	1600	27.344	0.6626	0.0090	0.3284
NS-25Ho	1300	27.319	0.6293	0.0542	0.3164
NS-25Ho	1350	27.445	0.6293	0.0542	0.3164
NS-25Ho	1400	27.573	0.6293	0.0542	0.3164
NS-25Ho	1450	27.702	0.6293	0.0542	0.3164
NS-25Ho	1500	27.832	0.6293	0.0542	0.3164
NS-25Ho	1550	27.964	0.6293	0.0542	0.3164
NS-25Ho	1600	28.096	0.6293	0.0542	0.3164
NS-5Er	1300	26.616	0.6650	0.0084	0.3267
NS-5Er	1350	26.717	0.6650	0.0084	0.3267
NS-5Er	1400	26.819	0.6650	0.0084	0.3267
NS-5Er	1450	26.921	0.6650	0.0084	0.3267
NS-5Er	1500	27.025	0.6650	0.0084	0.3267
NS-5Er	1550	27.129	0.6650	0.0084	0.3267
NS-5Er	1600	27.234	0.6650	0.0084	0.3267
NS-25Er	1300	26.903	0.6321	0.0504	0.3176
NS-25Er	1350	27.036	0.6321	0.0504	0.3176
NS-25Er	1400	27.171	0.6321	0.0504	0.3176
NS-25Er	1450	27.306	0.6321	0.0504	0.3176
NS-25Er	1500	27.443	0.6321	0.0504	0.3176
NS-25Er	1550	27.582	0.6321	0.0504	0.3176
NS-25Er	1600	27.721	0.6321	0.0504	0.3176

NS-5Tm	1300	26.665	0.6638	0.0086	0.3276
NS-5Tm	1350	26.781	0.6638	0.0086	0.3276
NS-5Tm	1400	26.898	0.6638	0.0086	0.3276
NS-5Tm	1450	27.016	0.6638	0.0086	0.3276
NS-5Tm	1500	27.135	0.6638	0.0086	0.3276
NS-5Tm	1550	27.256	0.6638	0.0086	0.3276
NS-5Tm	1600	27.377	0.6638	0.0086	0.3276
NS-25Tm	1300	27.202	0.6208	0.0520	0.3272
NS-25Tm	1350	27.286	0.6208	0.0520	0.3272
NS-25Tm	1400	27.371	0.6208	0.0520	0.3272
NS-25Tm	1450	27.456	0.6208	0.0520	0.3272
NS-25Tm	1500	27.541	0.6208	0.0520	0.3272
NS-25Tm	1550	27.627	0.6208	0.0520	0.3272
NS-25Tm	1600	27.714	0.6208	0.0520	0.3272
NS-5Yb	1300	26.628	0.6673	0.0085	0.3242
NS-5Yb	1350	26.742	0.6673	0.0085	0.3242
NS-5Yb	1400	26.856	0.6673	0.0085	0.3242
NS-5Yb	1450	26.972	0.6673	0.0085	0.3242
NS-5Yb	1500	27.089	0.6673	0.0085	0.3242
NS-5Yb	1550	27.207	0.6673	0.0085	0.3242
NS-5Yb	1600	27.326	0.6673	0.0085	0.3242
NS-25Yb	1300	27.203	0.6374	0.0505	0.3121
NS-25Yb	1350	27.300	0.6374	0.0505	0.3121
NS-25Yb	1400	27.398	0.6374	0.0505	0.3121
NS-25Yb	1450	27.497	0.6374	0.0505	0.3121
NS-25Yb	1500	27.596	0.6374	0.0505	0.3121
NS-25Yb	1550	27.696	0.6374	0.0505	0.3121
NS-25Yb	1600	27.797	0.6374	0.0505	0.3121

#Concentrations are given in mol %.

*LanthOx is Ce₂O₃, Pr₂O₃, Nd₂O₃, Sm₂O₃, Eu₂O₃, Gd₂O₃, Tb₂O₃, Dy₂O₃, Ho₂O₃, Er₂O₃, Tm₂O₃ and Yb₂O₃.