Supplementary Materials

NEW GLASSES IN THE $PbCl_2$-PbO-B_2O_3 SYSTEM: STRUC-TURE AND OPTICAL PROPERTIES

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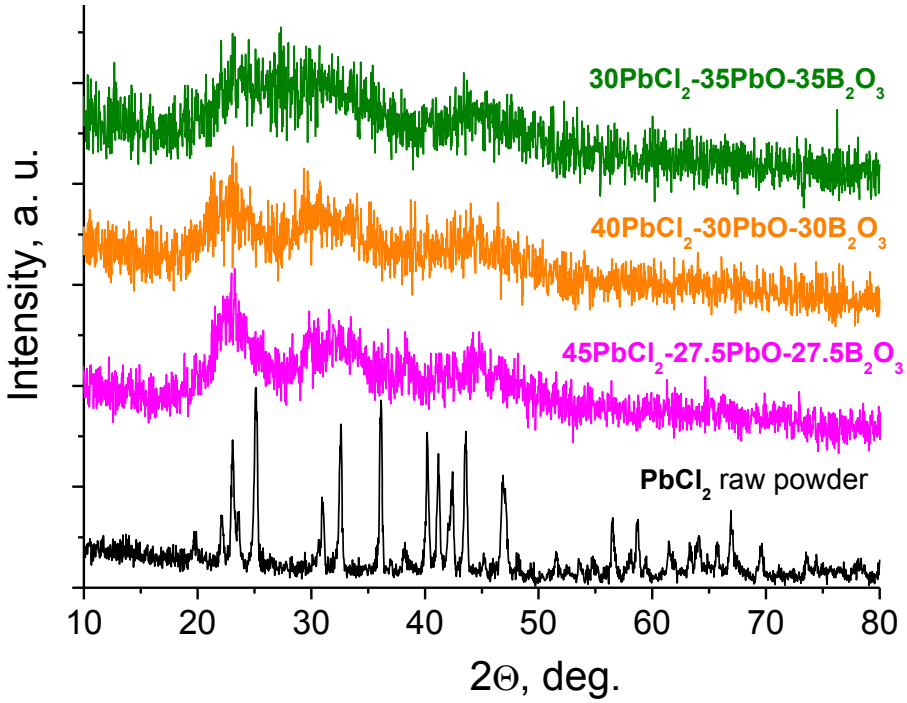

Figure S1. Comparison of XRD patterns of glasses of the xPbCl2-(50-0.5x)PbO-(50-0.5x)B2O3 system with crystalline PbCl2.

Table S1. The composition of glasses according to the XFS data.

Nominal glass composition, mol%	Nominal ratio, mol%	Experimental ratio, mol% ±0.01	
	Cl/Pb	Cl/Pb	Al/Pb
40PbCl2-30PbO-30B2O3	1.14	1.17	0.11
35PbCl2-32.5PbO-32.5B2O3	1.04	1.03	0.11
33PbCl2-33PbO-34B2O3	1.00	1.06	0.13
30PbCl2-35PbO-35B2O3	0.92	0.94	0.13
25PbCl2-37.5PbO-37.5B2O3	0.80	0.87	0.13
20PbCl2-40PbO-40B2O3	0.67	0.69	0.15
15PbCl2-42.5PbO-42.5B2O3	0.52	0.73	0.32
10PbCl2-45PbO-45B2O3	0.36	0.43	0.42
5PbCl2-47.5PbO-47.5B2O3	0.19	0.22	0.31
50PbO-50B2O3	-	-	0.31

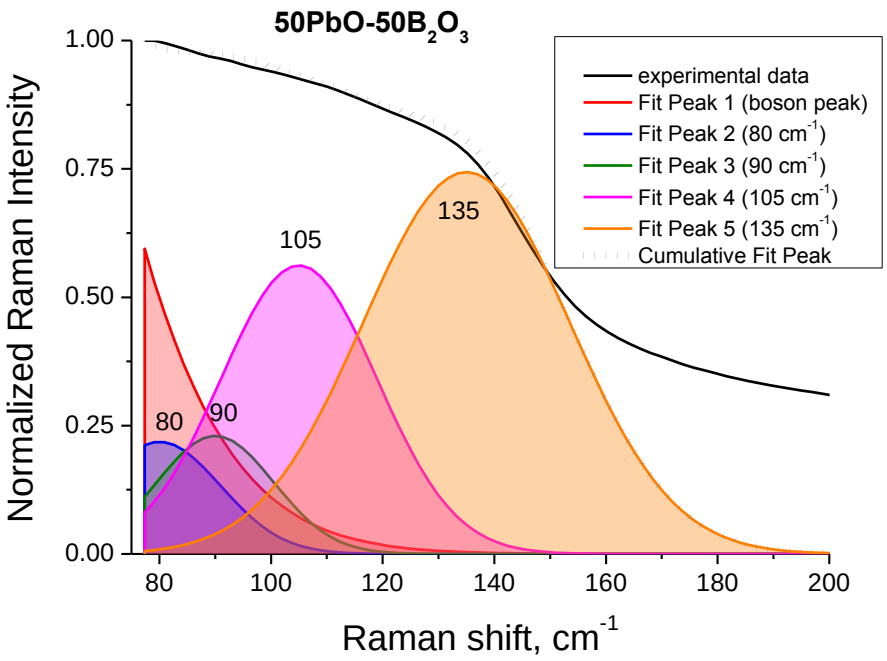

Figure S2. Decomposition of the 50PbO-50B_2O_3 glass Raman spectrum into Gaussians.

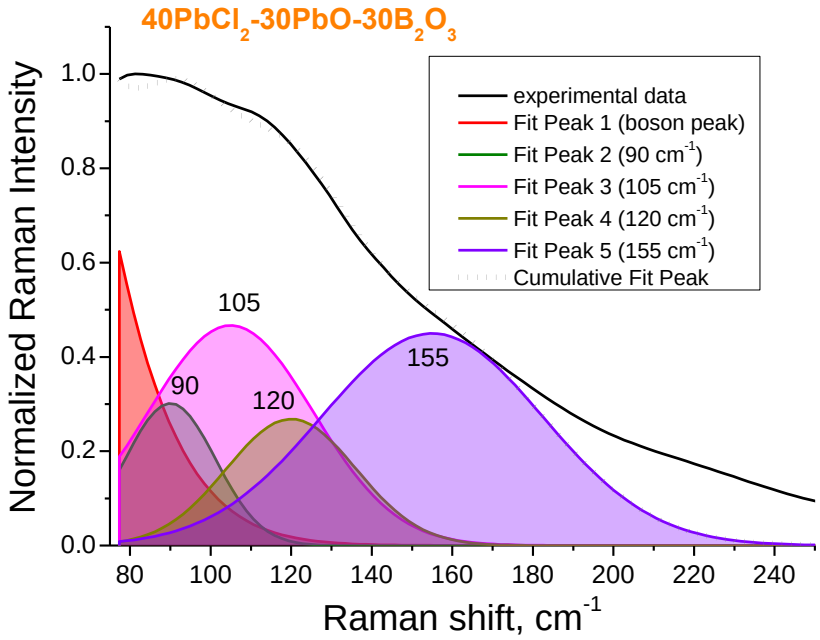

Figure S3. Decomposition of the 40$PbCl_2$-30PbO-30B_2O_3 glass Raman spectrum into Gaussians.

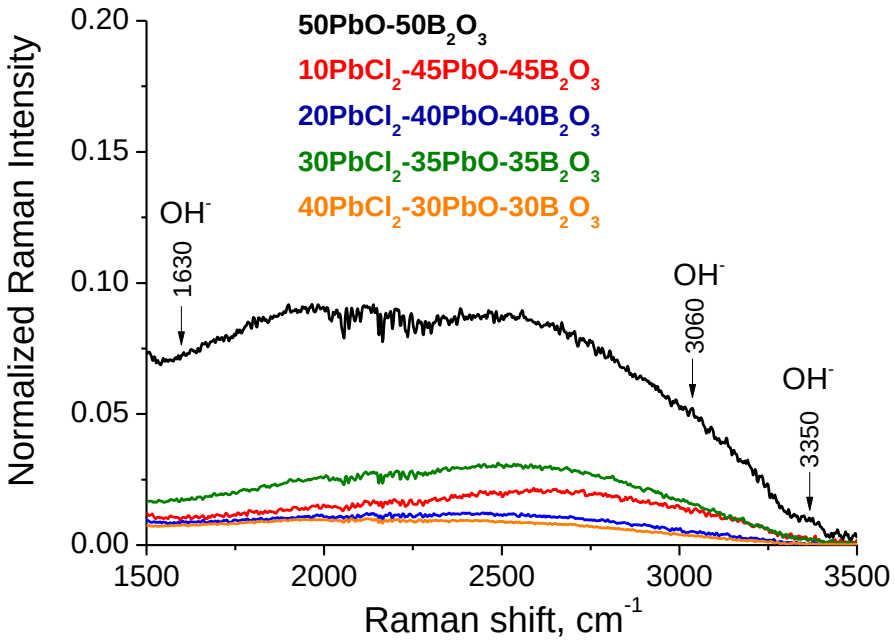

Figure S4. Raman spectra of xPbCl$_2$-(50-0.5x)PbO-(50-0.5x)B$_2$O$_3$ glasses (1750-3500 cm^{-1} range).

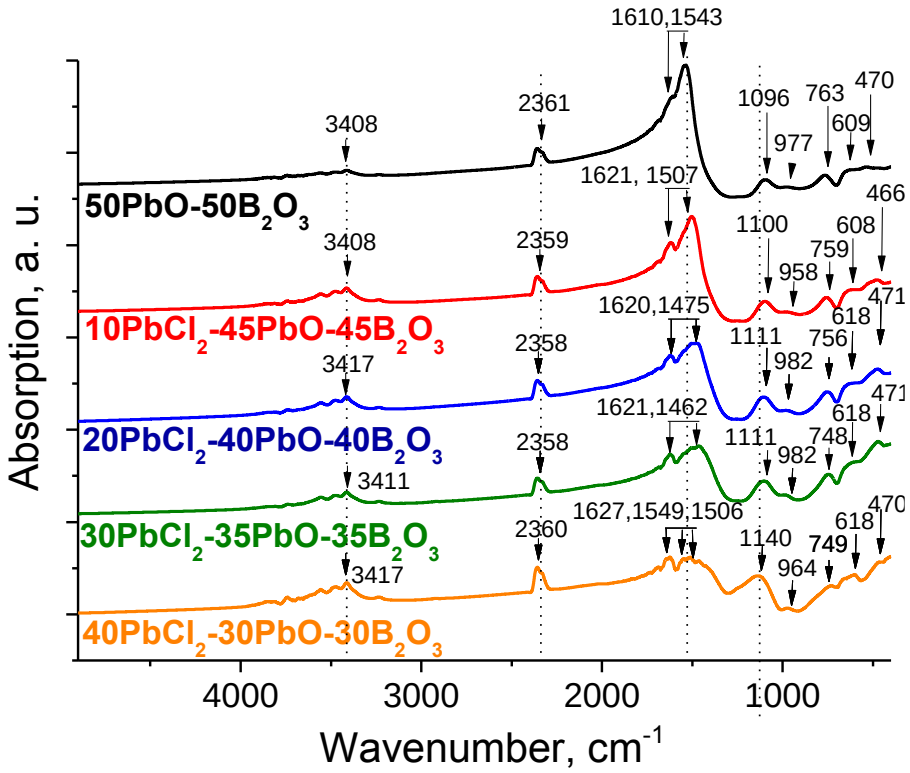

Figure S5. FT-IR spectra synthesized glasses.

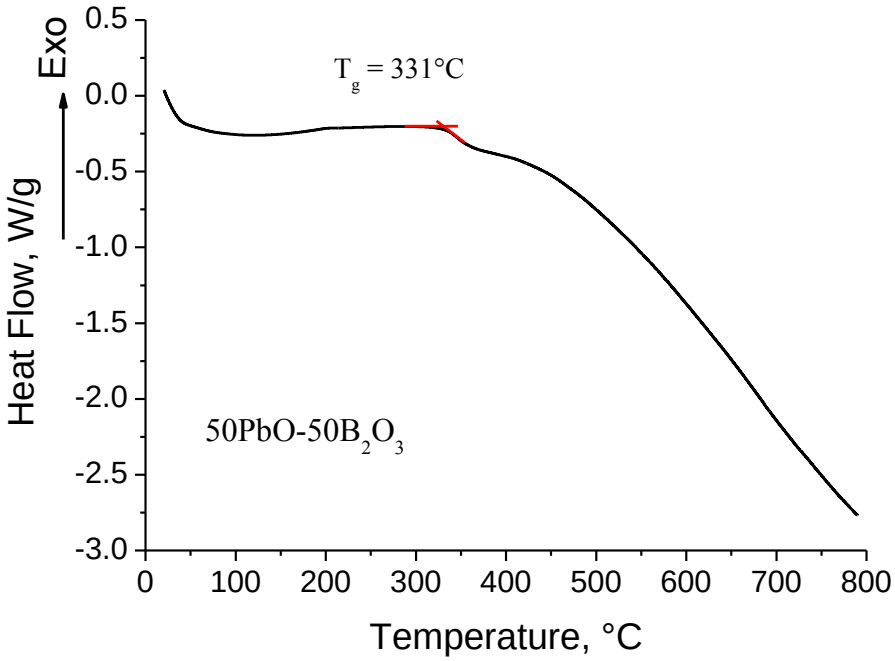

Figure S6. DSC curve for glass composition 50PbO-50B_2O_3, and characteristic temperatures marked on it.

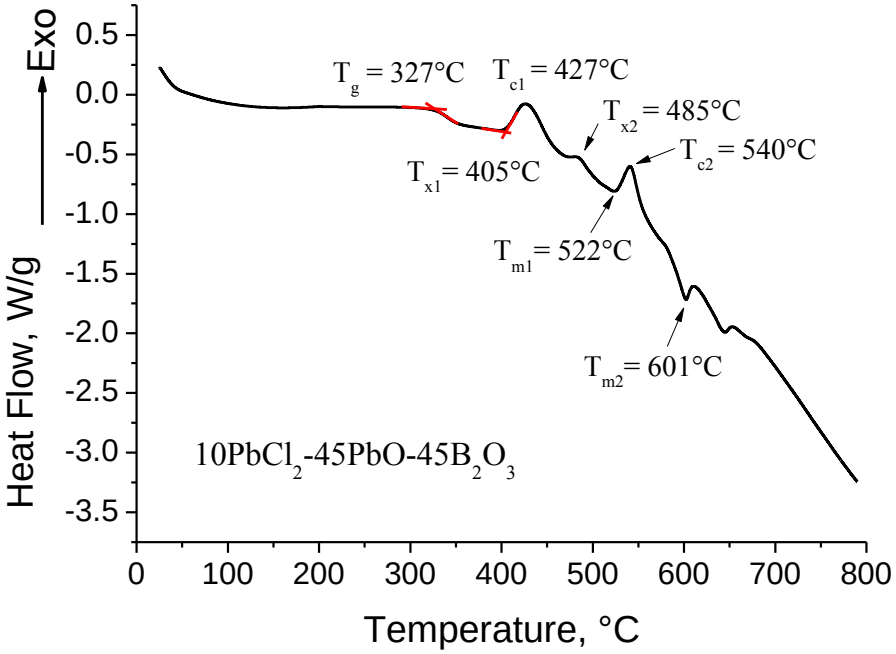

Figure S7. DSC curve for glass composition 10$PbCl_2$-45PbO-45B_2O_3, and characteristic temperatures marked on it.

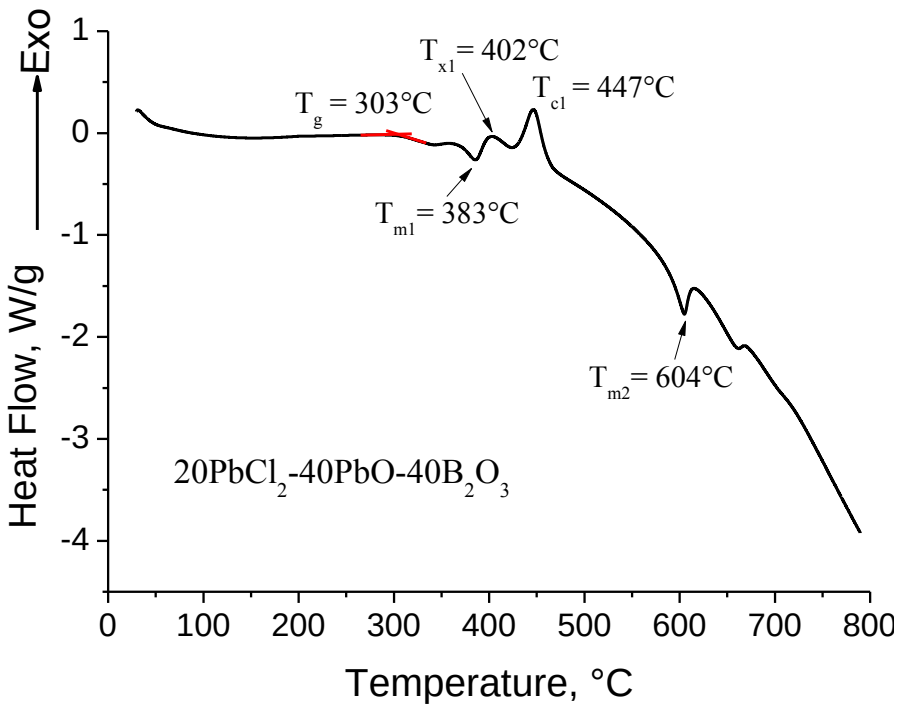

Figure S8. DSC curve for glass composition $20PbCl_2$-$40PbO$-$40B_2O_3$, and characteristic temperatures marked on it.

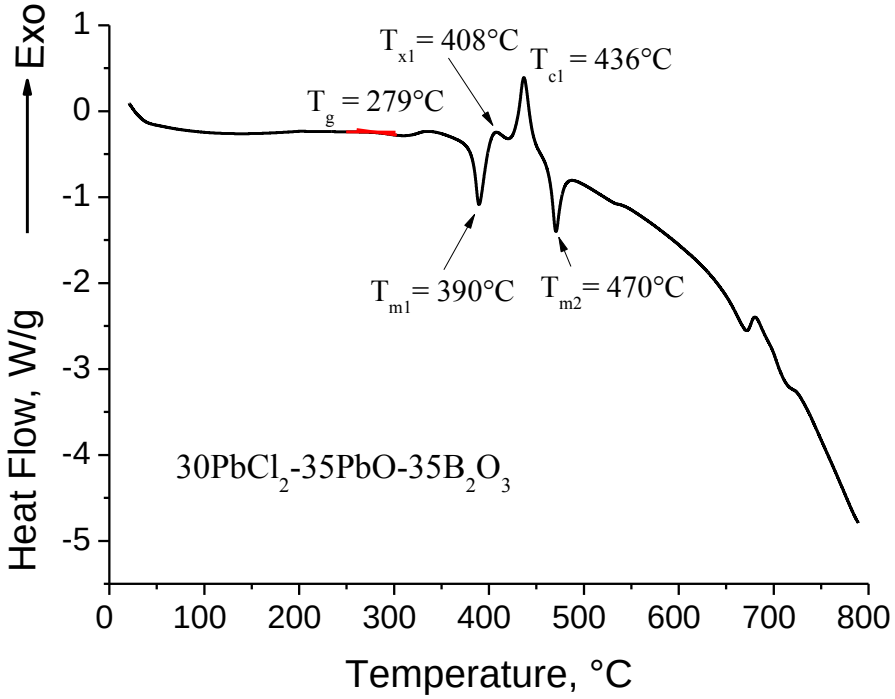

Figure S9. DSC curve for glass composition $30PbCl_2$-$35PbO$-$35B_2O_3$, and characteristic temperatures marked on it.

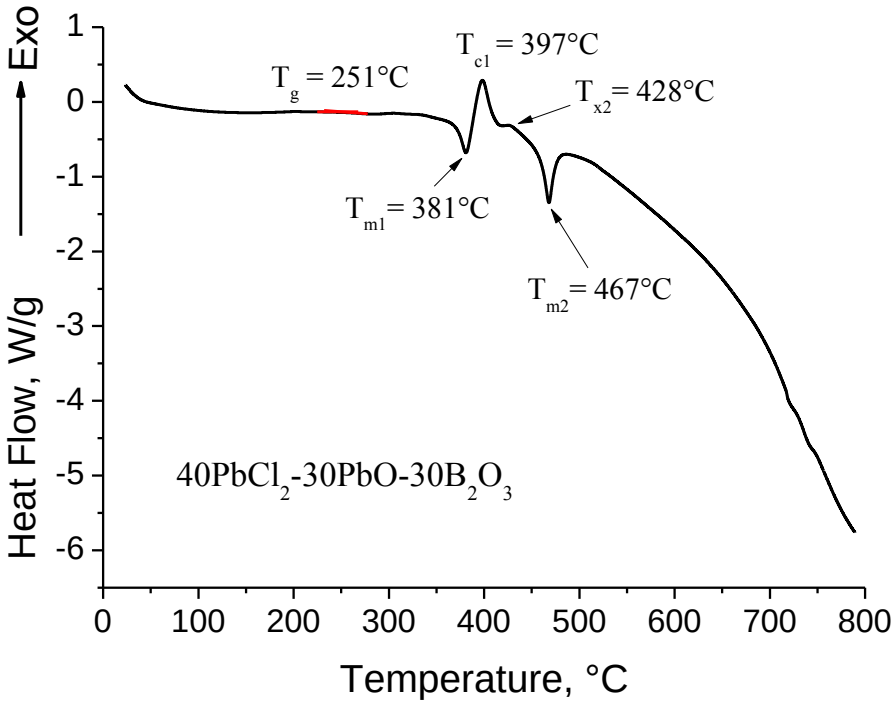

Figure S10. DSC curve for glass composition $40PbCl_2$-$30PbO$-$30B_2O_3$, and characteristic temperatures marked on it.

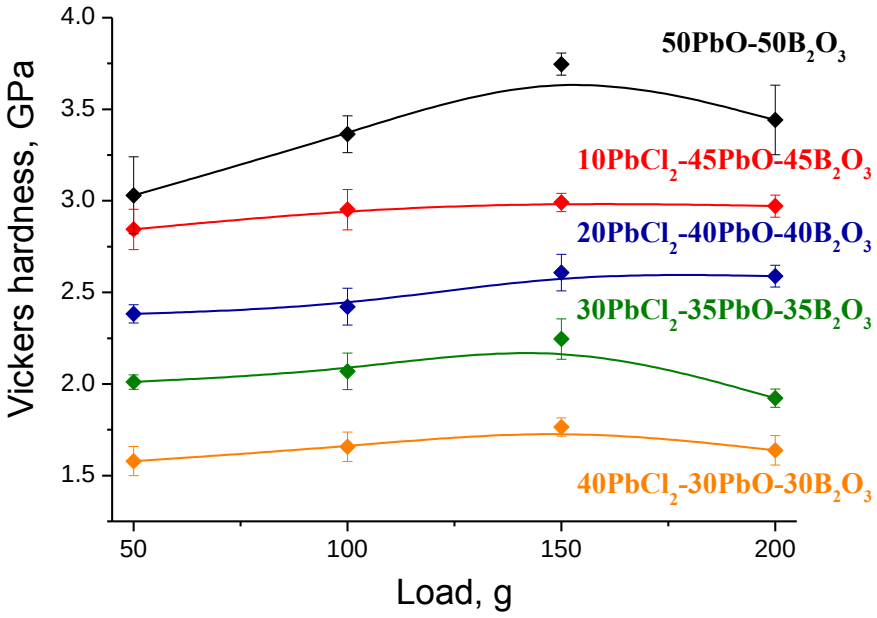

Figure S11. Dependence of Vickers hardness on the applied load xPbCl2-(50-0.5x)PbO-(50-0.5x)B2O3 glasses.

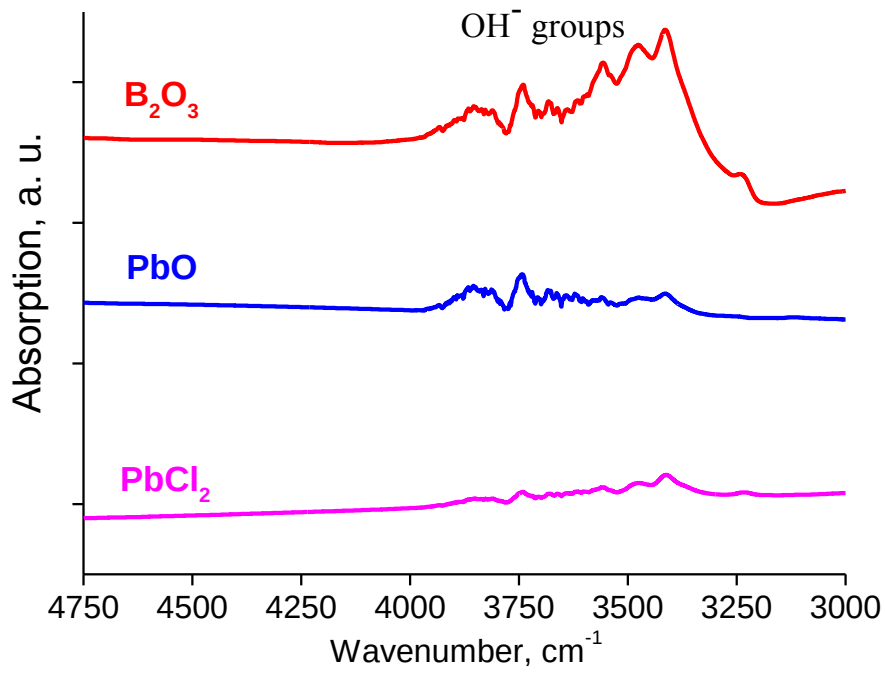

Figure S12. FT-IR spectra of the initial reagents, with the indicated band of OH^- groups.

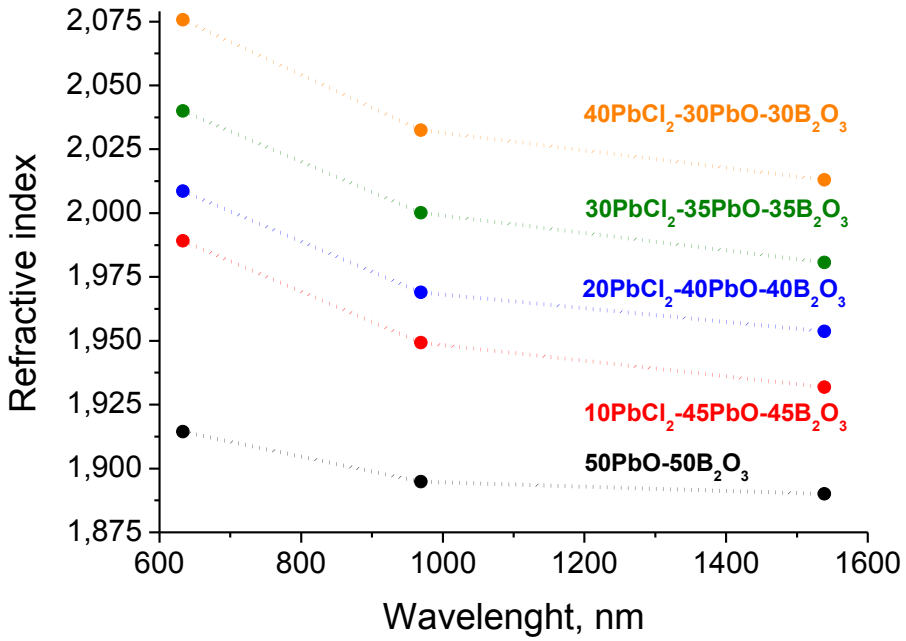

Figure S13. The dispersion of the refractive index of xPbCl$_2$-(50-0.5x)PbO-(50-0.5x)B$_2$O$_3$ glasses.