

Fig S1 - Synchrotron transmission FTIR map of surface section of 10% Aliquat 336 / 90% PVC (m/m) PIM. The spectrometrically calculated proportion of Aliquat 336 (m/m) is displayed in the legend. Dimensions – 105 μm x 105 μm . Spectra recorded at 5 μm spacing where the spatial resolution of each spectrum is 5 μm x 5 μm

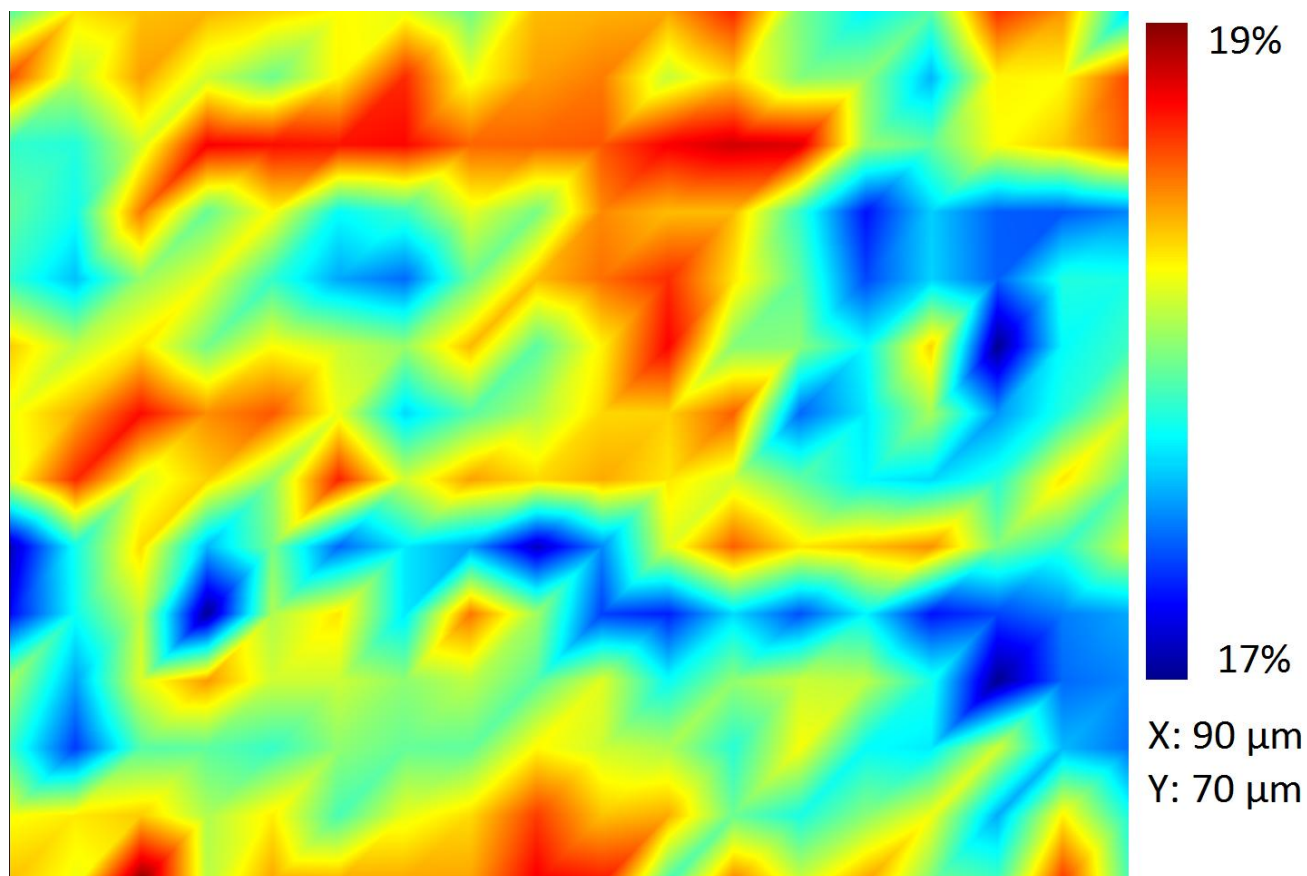


Fig S2 - Synchrotron transmission FTIR map of surface section of 20% Aliquat 336 / 80% PVC (m/m) PIM. The spectrometrically calculated proportion of Aliquat 336 (m/m) is displayed in the legend. Dimensions – 90 μm (W) x 105 μm (H). Spectra recorded at 5 μm spacing where the spatial resolution of each spectrum is 5 μm x 5 μm

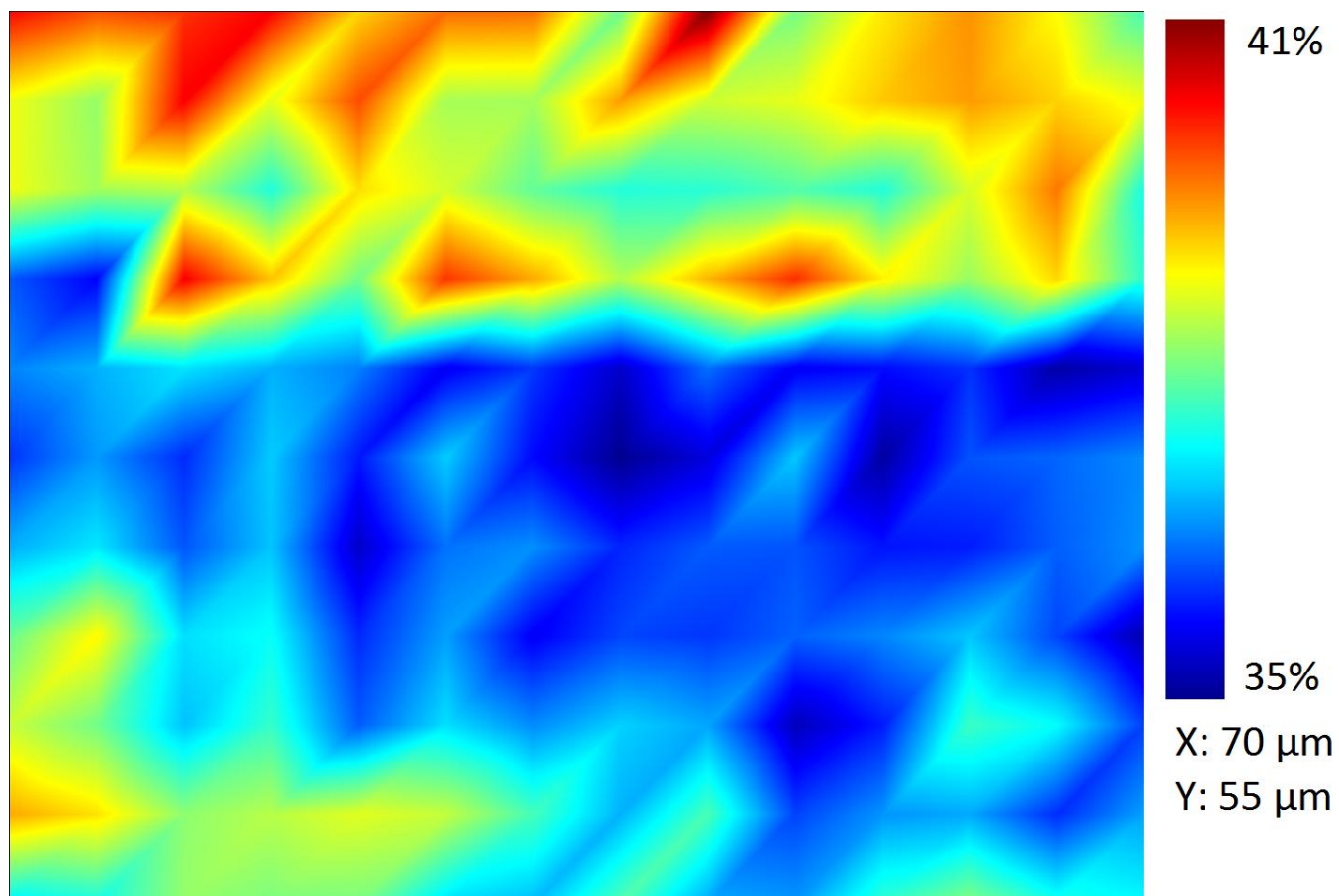


Fig S3 - Synchrotron transmission FTIR map of surface section of 40% Aliquat 336 / 60% PVC (m/m) PIM. The spectrometrically calculated proportion of Aliquat 336 (m/m) is displayed in the legend. Dimensions – 70 μm (W) x 55 μm (H). Spectra recorded at 5 μm spacing where the spatial resolution of each spectrum is 5 μm x 5 μm

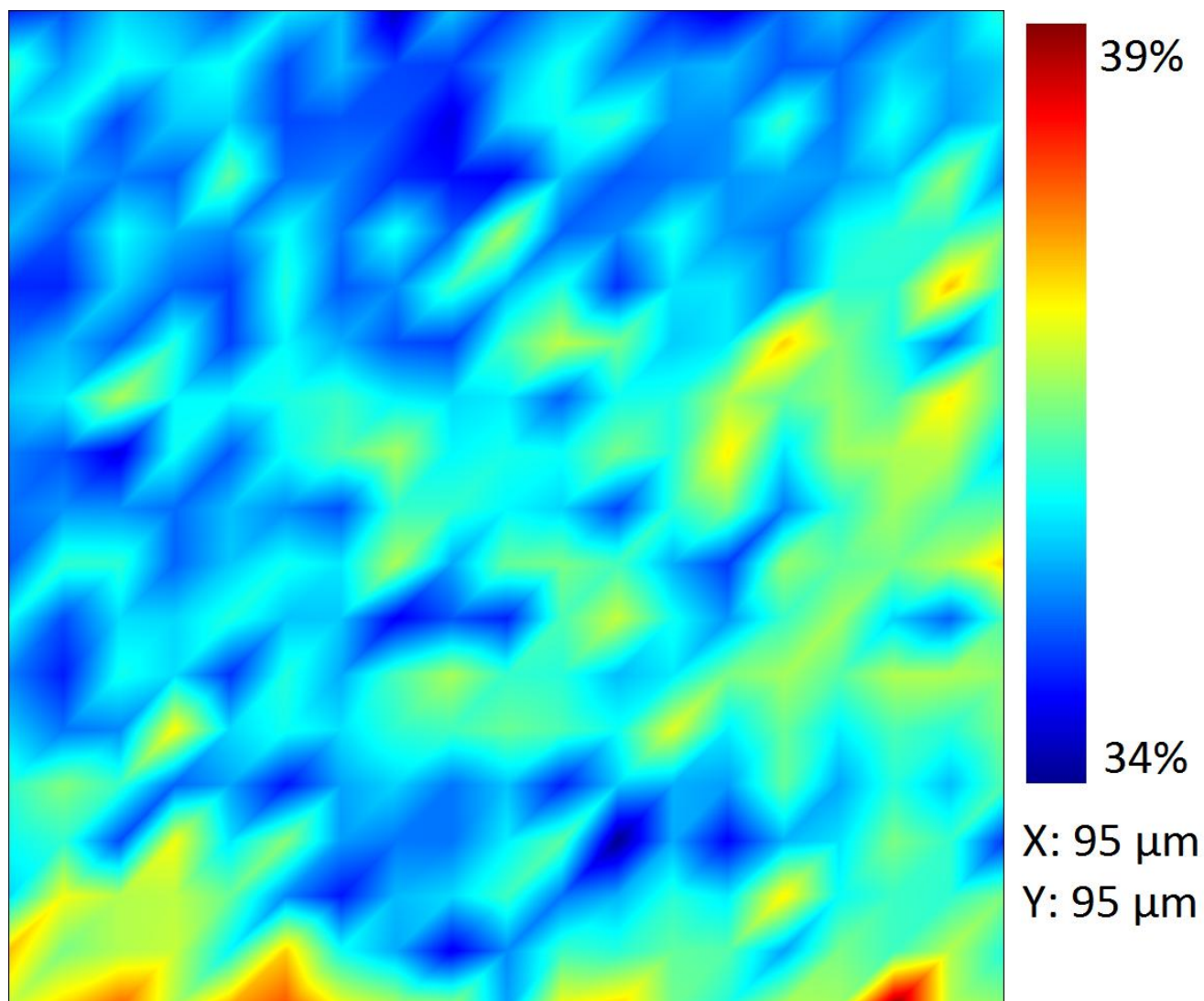


Fig S4 - Synchrotron transmission FTIR map of surface section of 40% D2EHPA / 60% PVC (m/m) PIM. The spectrometrically calculated proportion of D2EHPA (m/m) is displayed in the legend. Dimensions – 95 μm x 95 μm. Spectra recorded at 5 μm spacing where the spatial resolution of each spectrum is 5 μm x 5 μm.

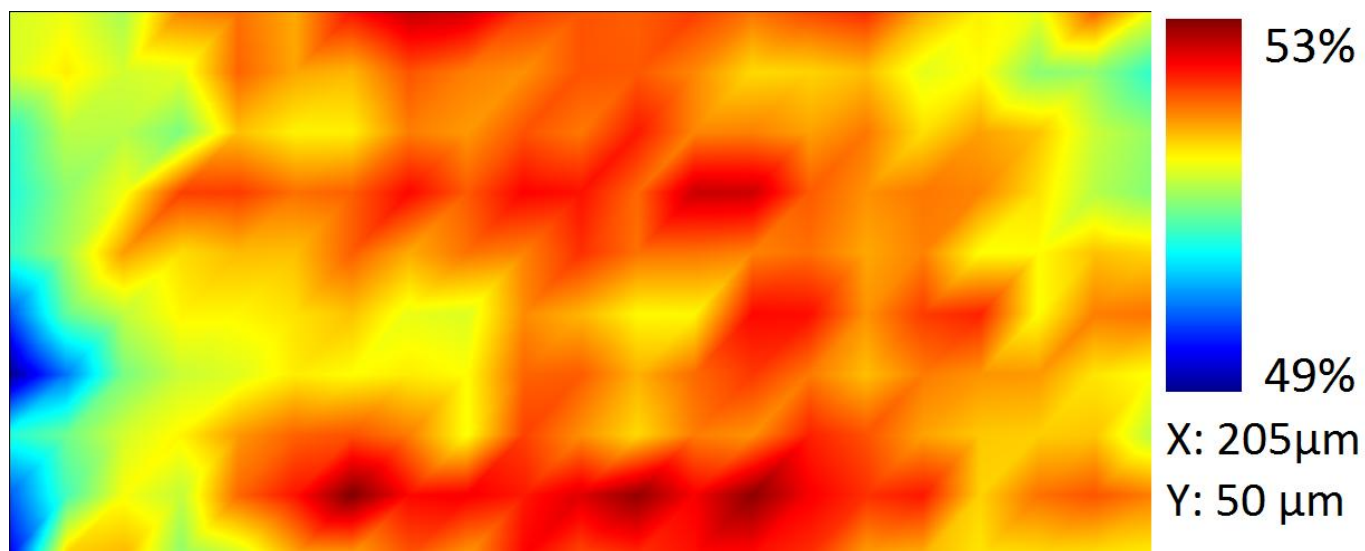


Fig S5 - Synchrotron transmission FTIR map of surface section of 60% Aliquat 336 / 40% CTA (m/m) PIM. The spectrometrically calculated proportion of Aliquat 336 (m/m) is displayed in the legend. Dimensions – 205 μm (W) x 50 μm (H). Spectra recorded at 5 μm spacing where the spatial resolution of each spectrum is 5 μm x 5 μm .

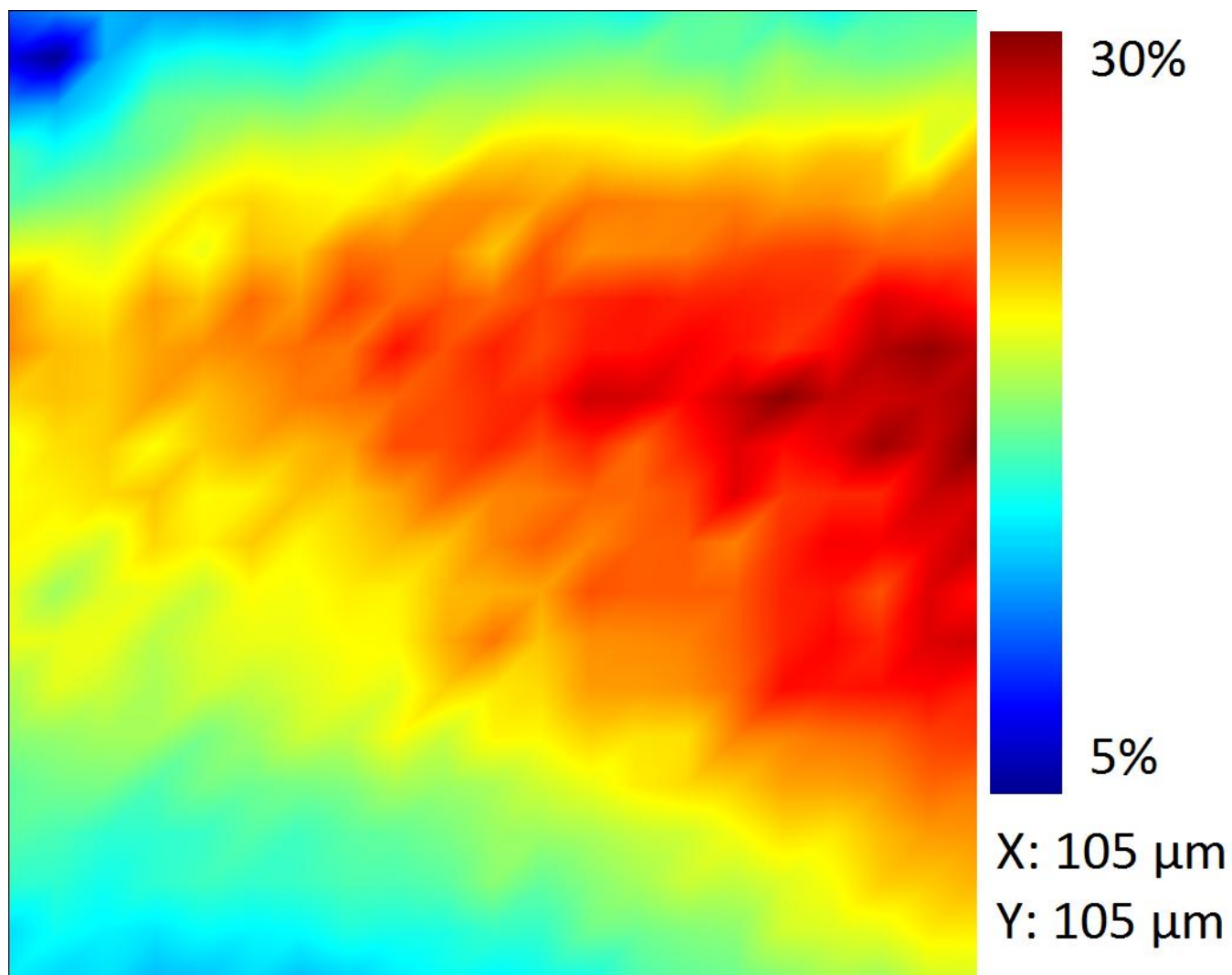


Fig S6 – Synchrotron transmission FTIR map of surface section of 40% Cyanex 272 / 60% PVC (m/m) PIM. The spectrometrically calculated proportion of Cyanex 272 (m/m) is displayed in the legend. Dimensions - 105 μm x 105 μm . Spectra recorded at 5 μm spacing where the spatial resolution of each spectrum is 5 μm x 5 μm .

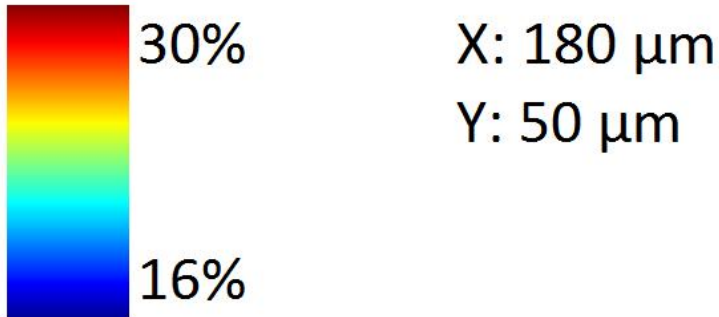
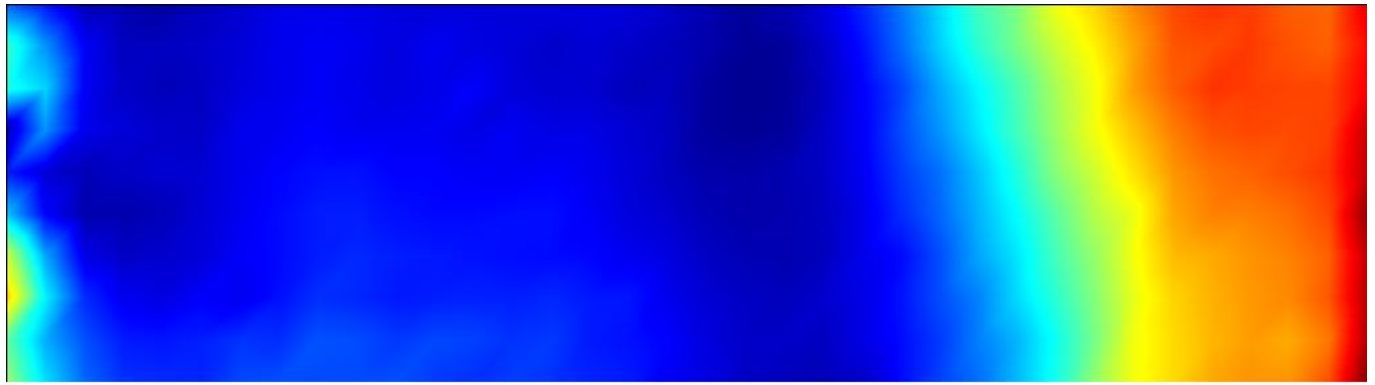
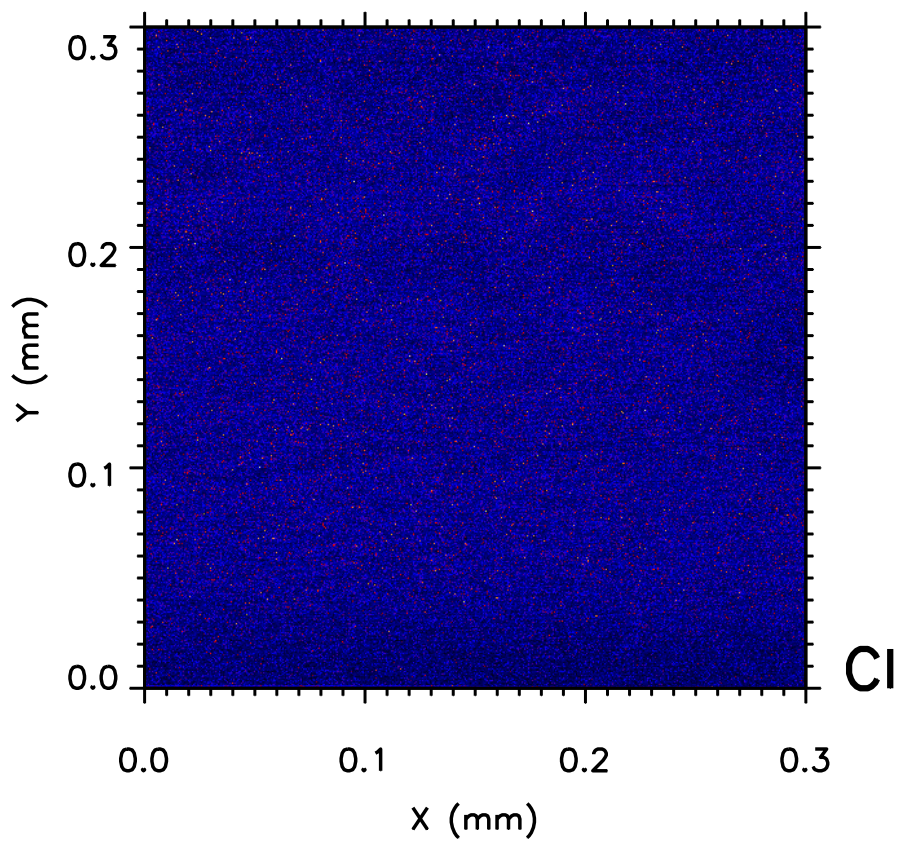
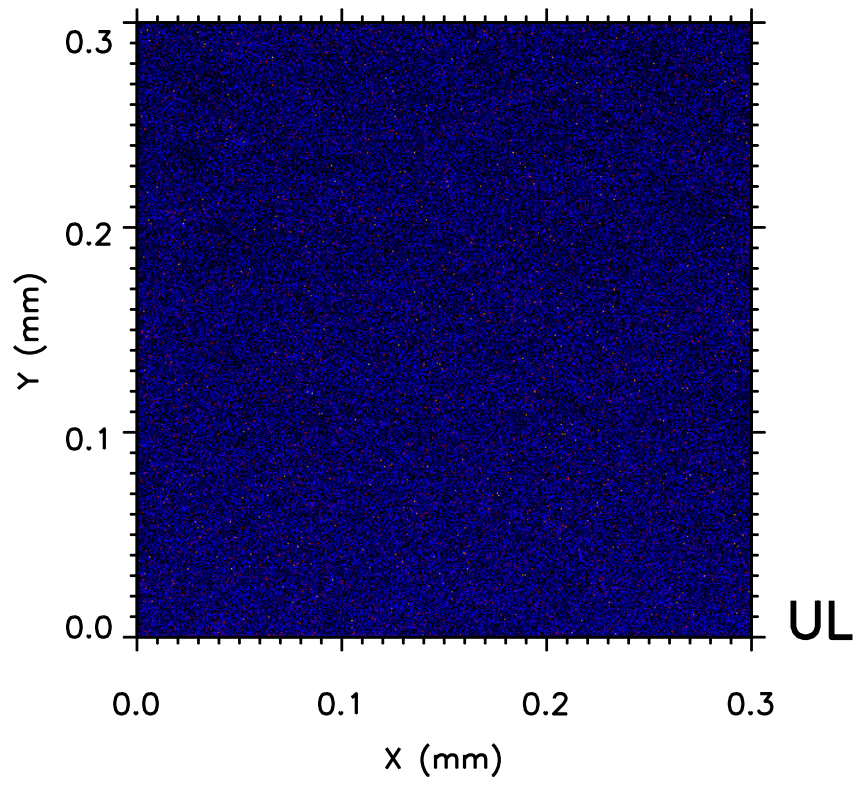


Fig S7 – Synchrotron transmission FTIR map of cross-section of 40% Cyanex 272 / 60% PVC (m/m) PIM. The spectrometrically calculated proportion of Cyanex 272 (m/m) is displayed in the legend. Dimensions – 50 μm (H) x 180 μm (W). Spectra recorded at 5 μm spacing where the spatial resolution of each spectrum is 5 μm x 5 μm .



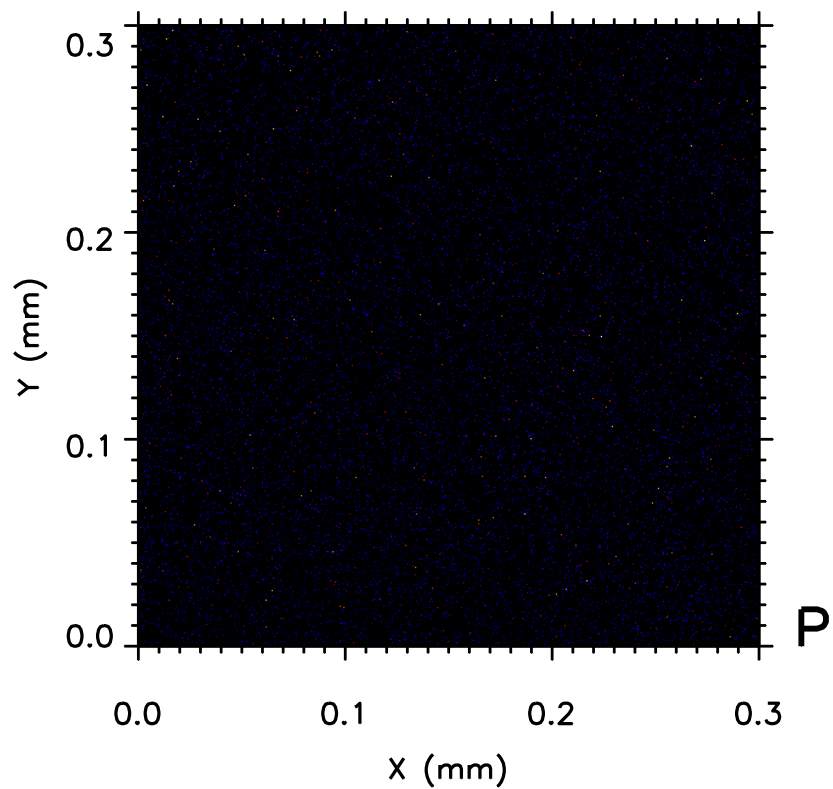


Fig S8 - μ -PIXE image of uranium (UL), chlorine (Cl) and phosphorus (P) distribution on the surface of a 40% D2EHPA / 60% PVC (m/m) PIM

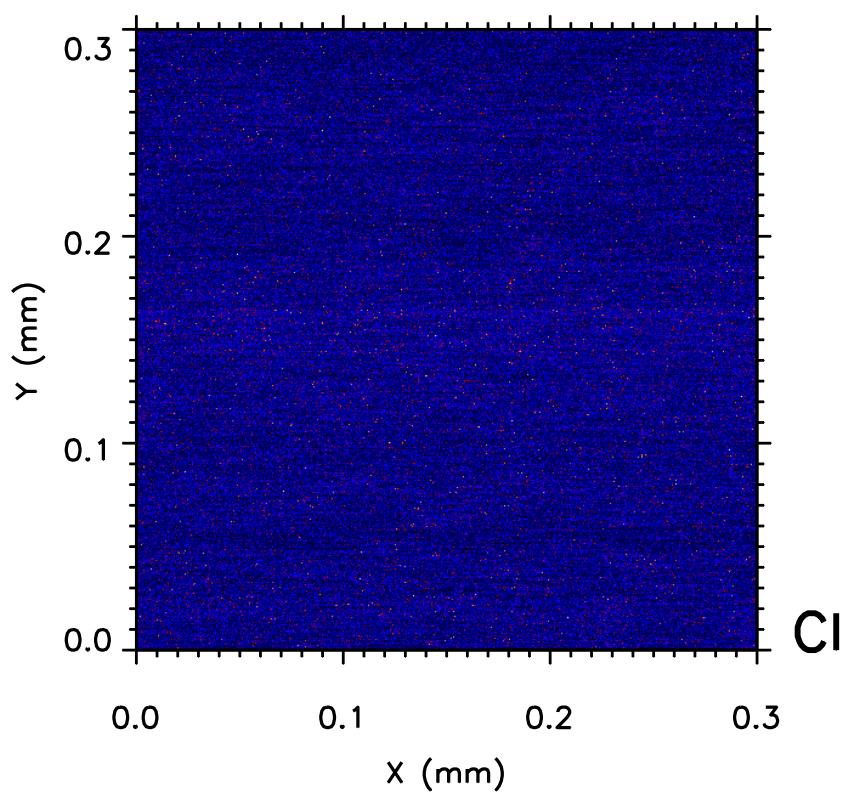
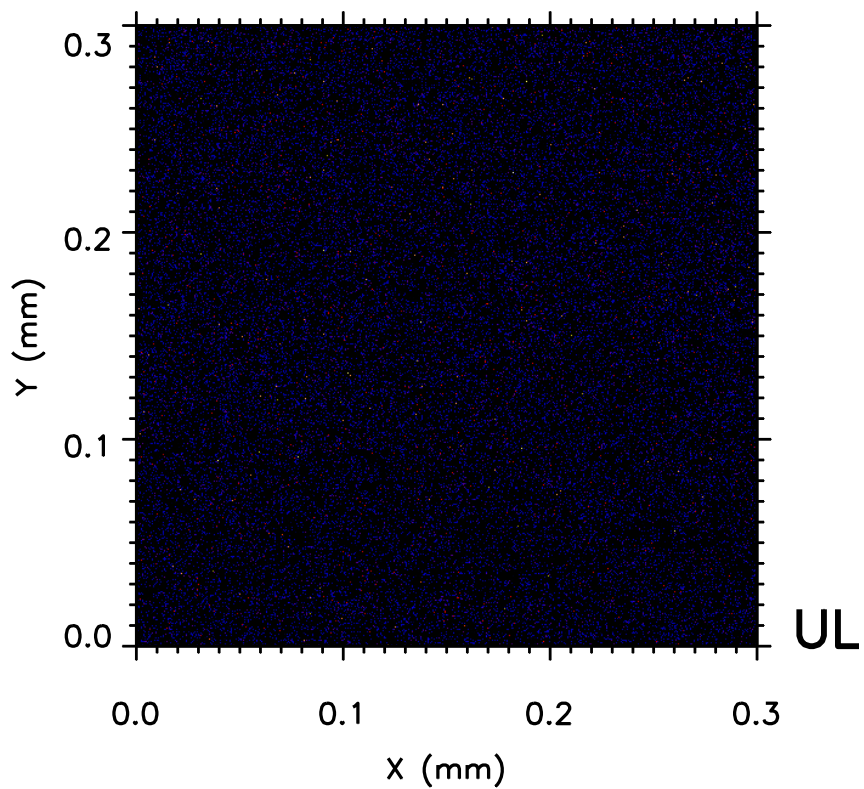


Figure S9 – μ -PIXE image of uranium (UL) and chlorine (Cl) distribution on the surface of a 40% Aliquat 336 / 60% PVC (m/m) PIM

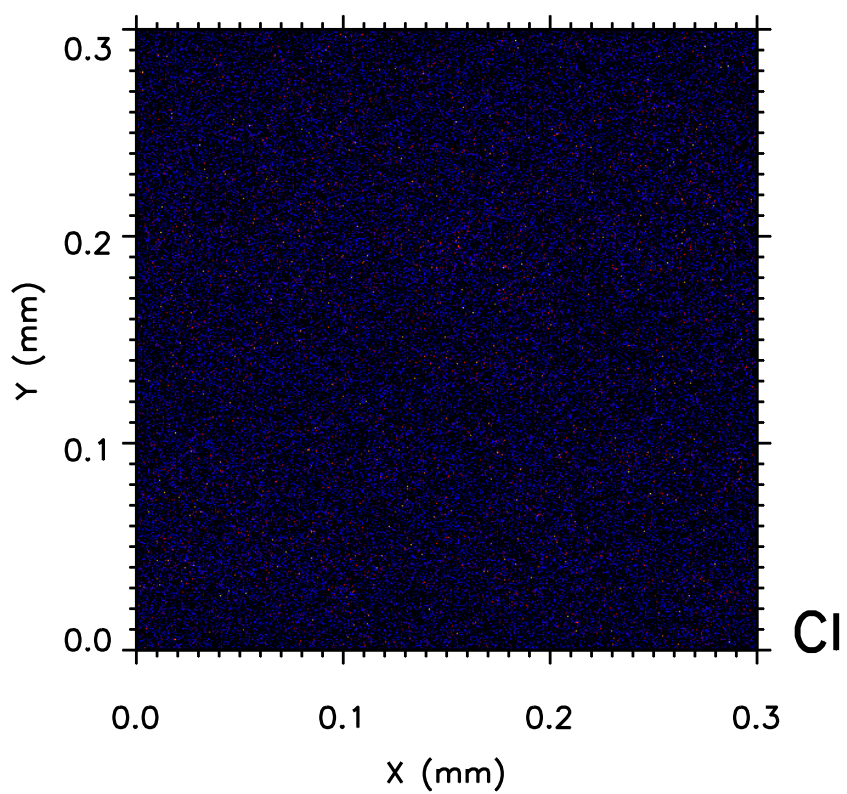
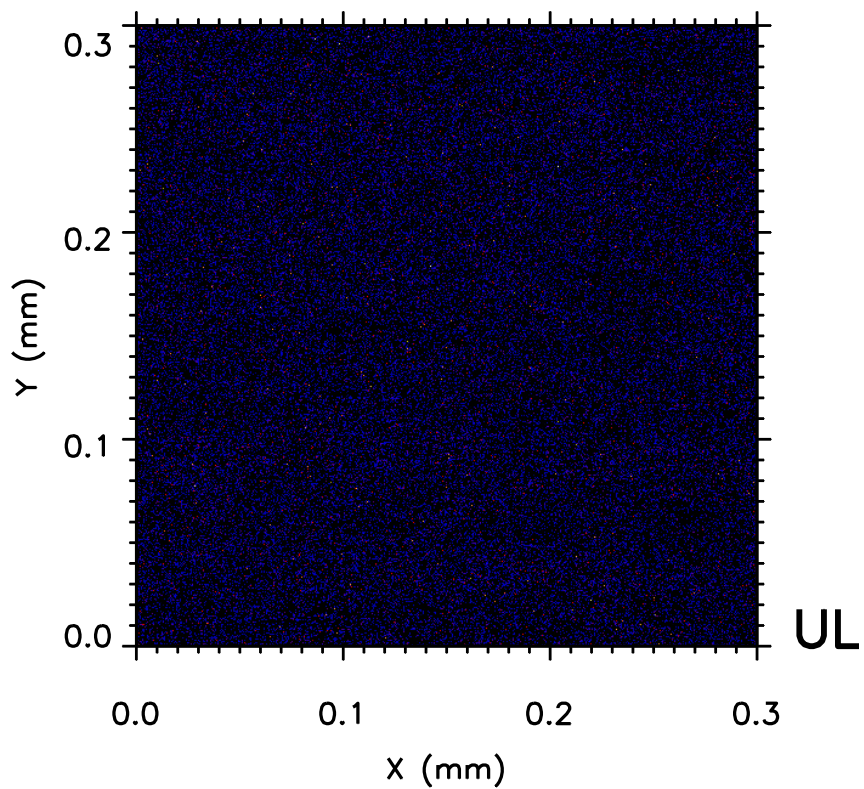
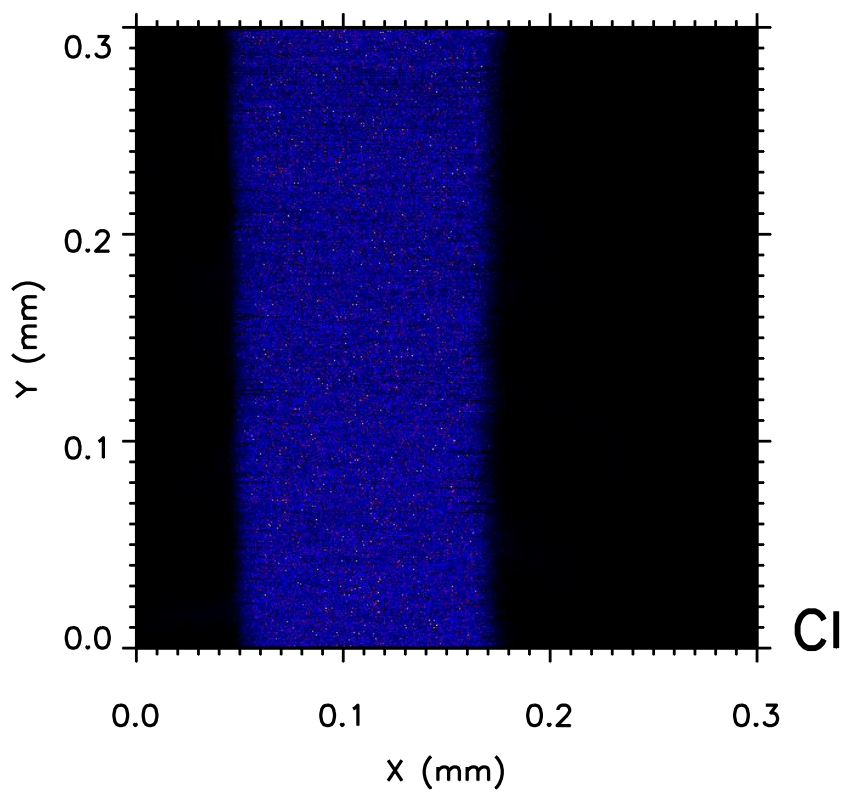
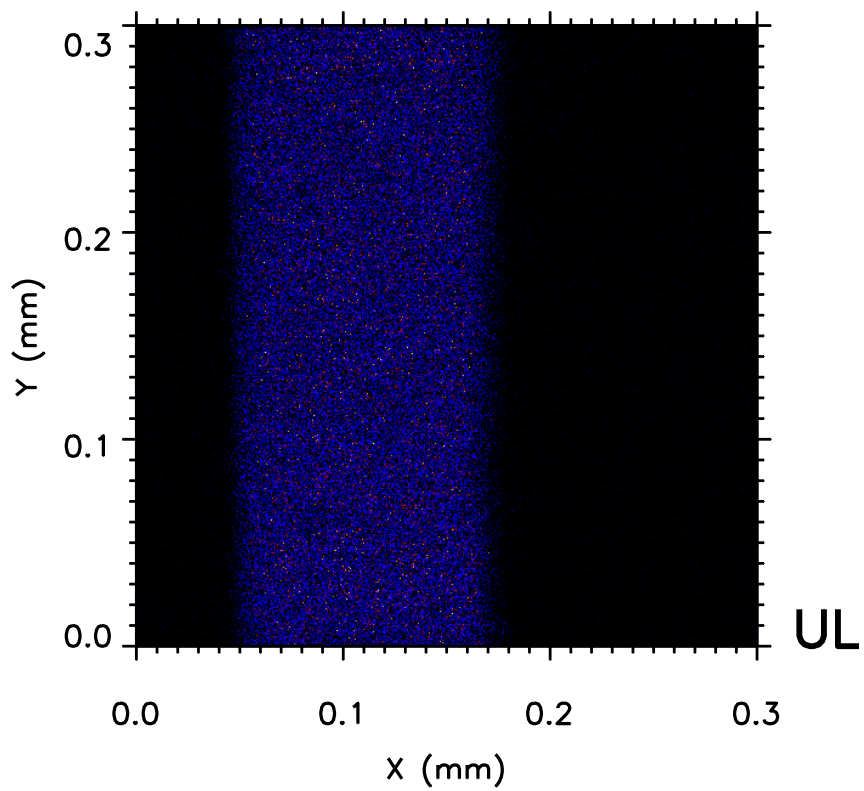


Figure S11 – μ -PIXE image of uranium (UL) and chlorine (Cl) distribution on the surface of a 60% Aliquat 336 / 40% CTA (m/m) PIM



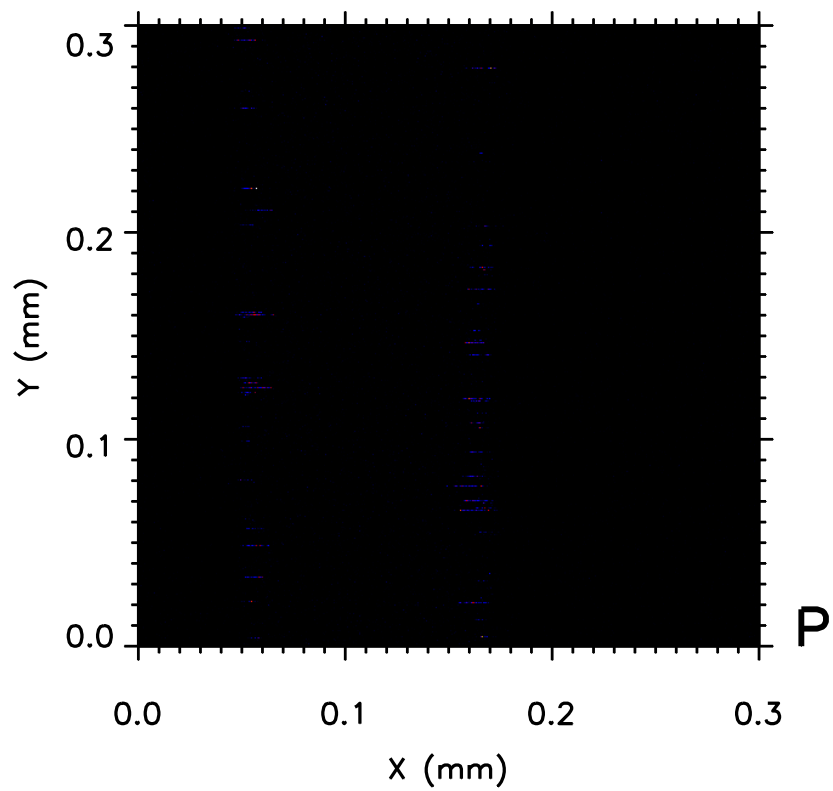


Fig S12 - μ -PIXE image of uranium (UL), chlorine (Cl) and phosphorus (P) distribution in the cross-section of a 40% D2EHPA / 60% PVC (m/m) PIM.

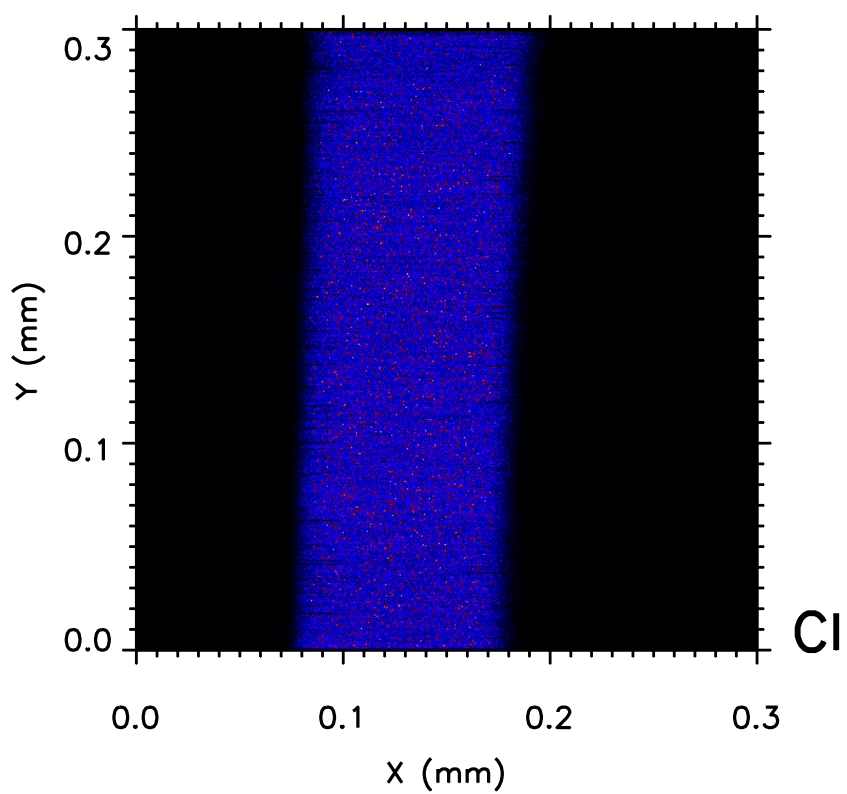
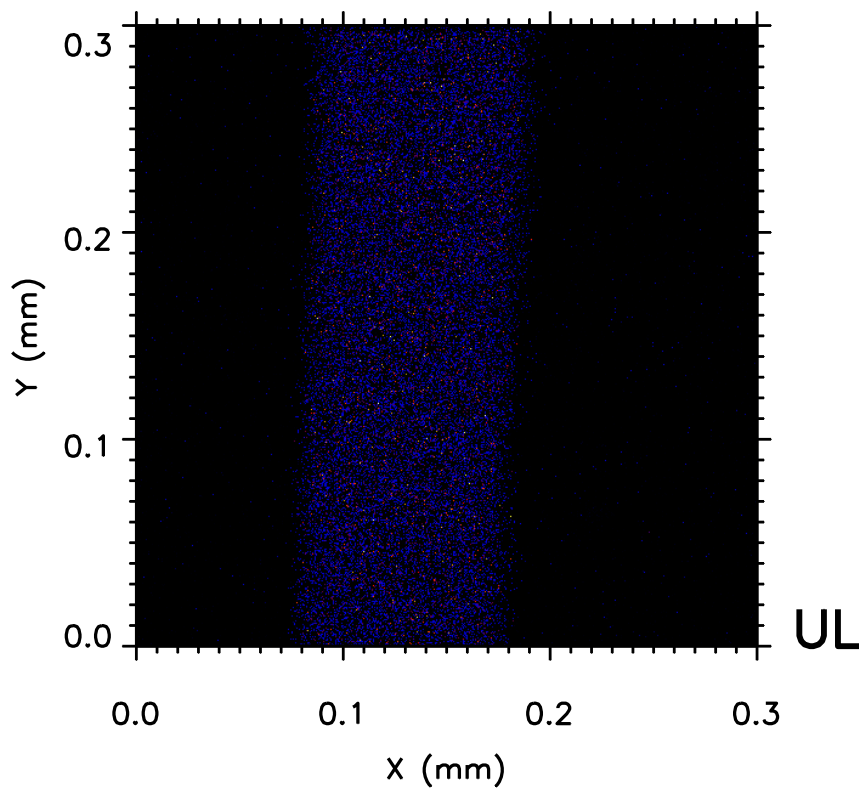


Fig S13 - μ -PIXE image of uranium (UL) and chlorine (Cl) distribution in the cross-section of a 40% Aliquat 336 / 60% PVC (m/m) PIM.

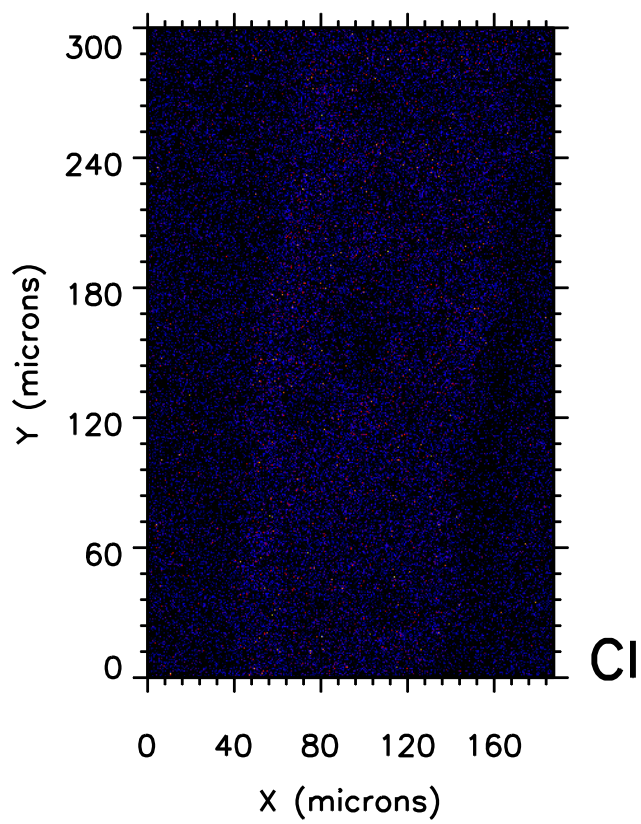
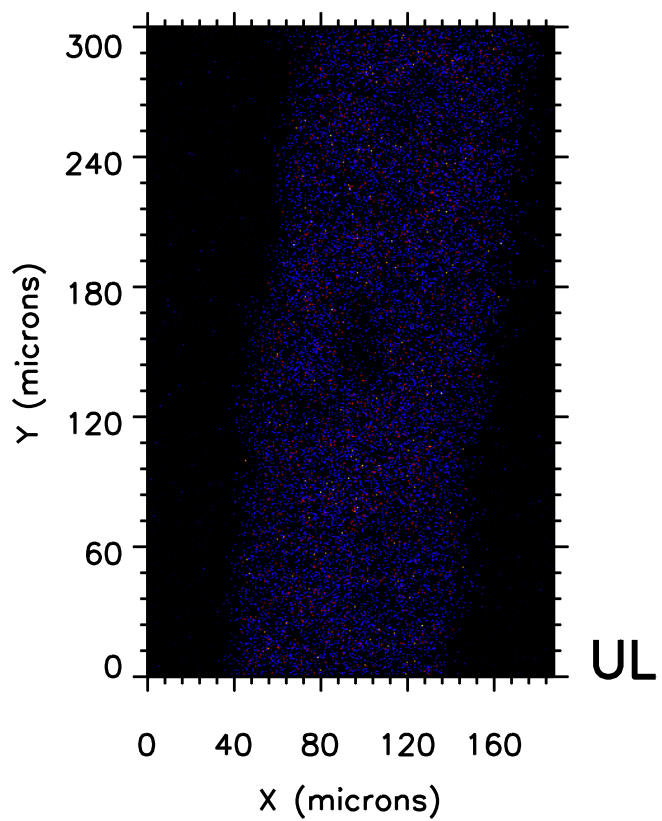


Fig S14 - μ -PIXE image of uranium (UL) and (obfuscated) chlorine (Cl) distribution in the cross-section of a 60% Aliquat 336 / 40% CTA (m/m) PIM.