Supplementary figure 17

for

Image fusion of mass spectrometry and microscopy: a new multi-modality paradigm for molecular mapping of tissue

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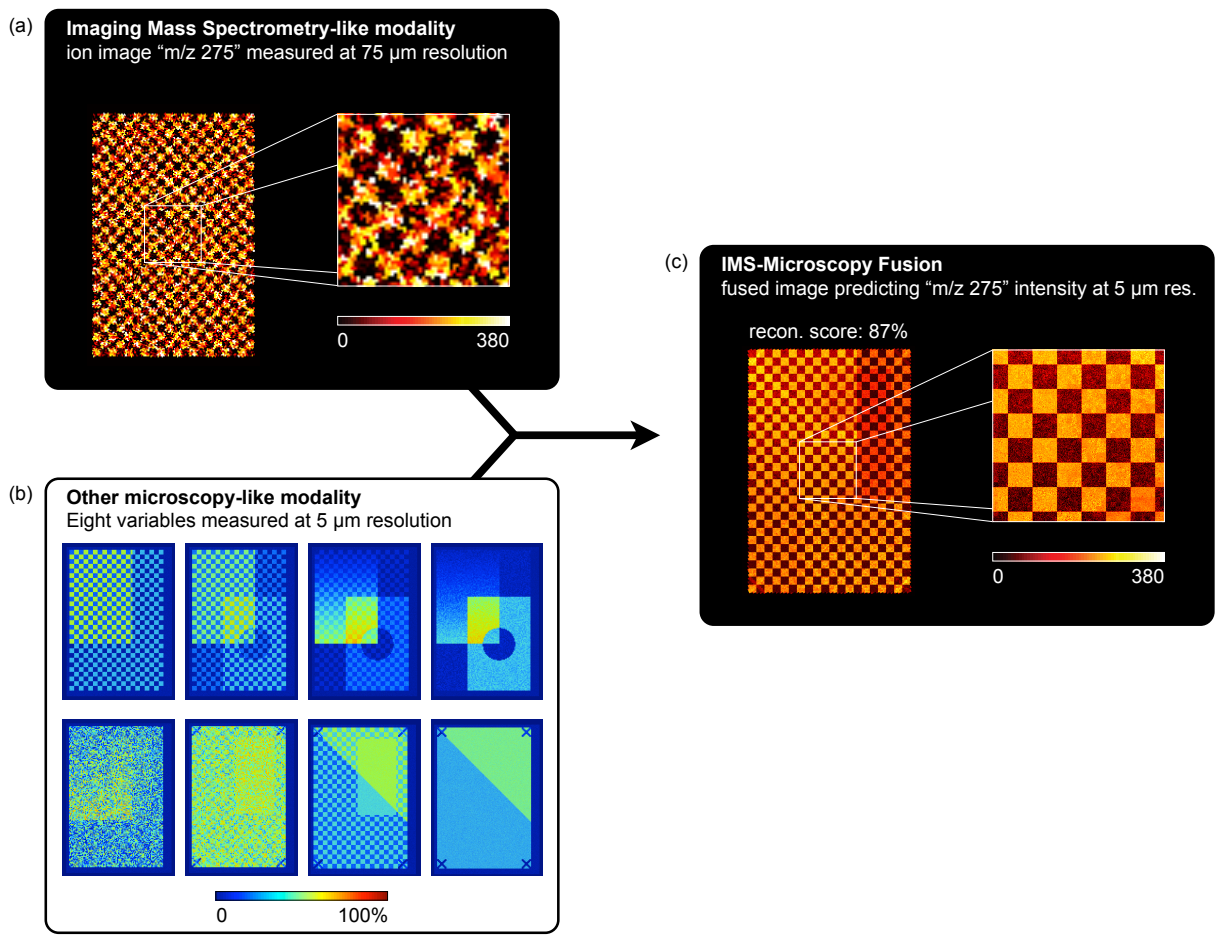
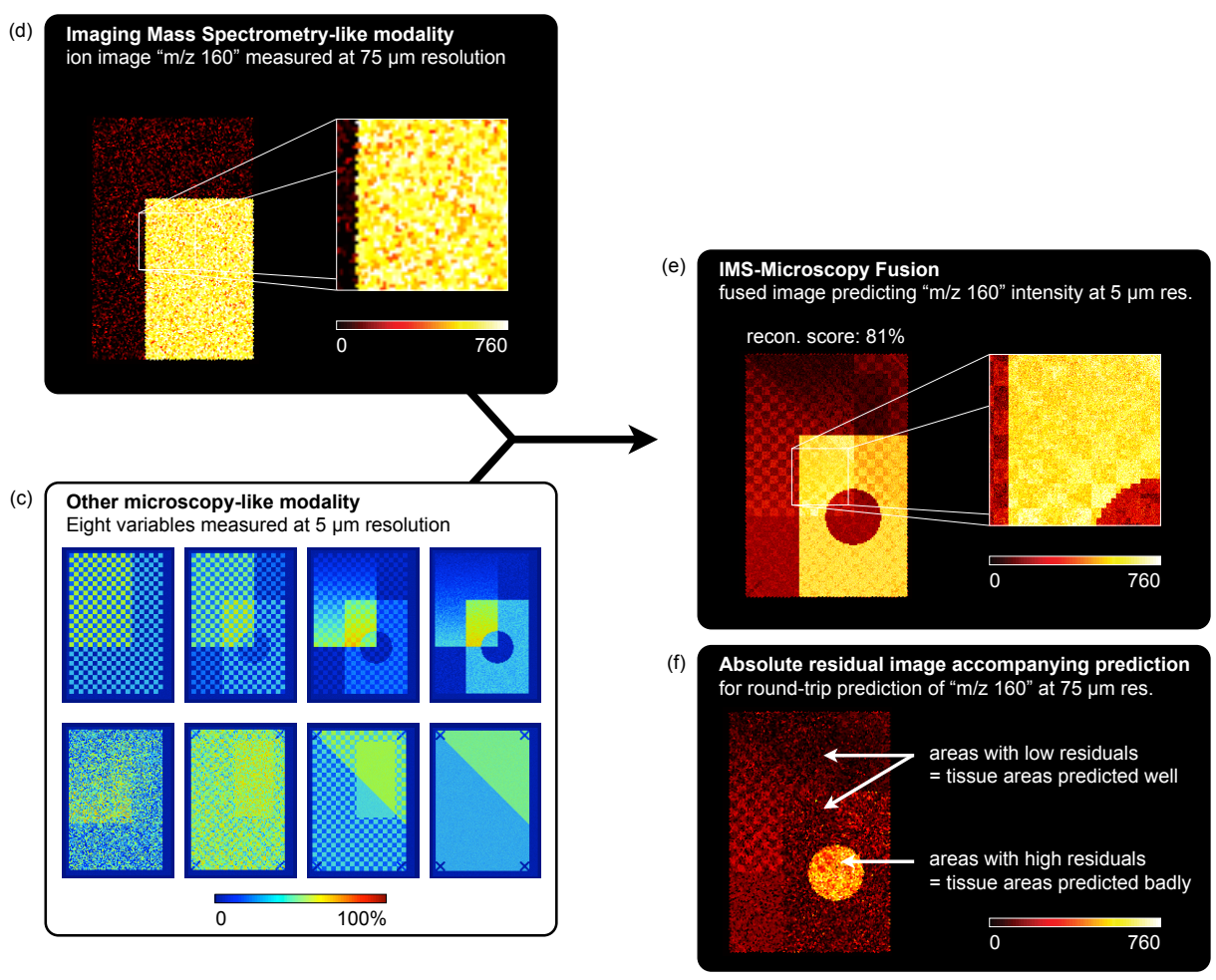
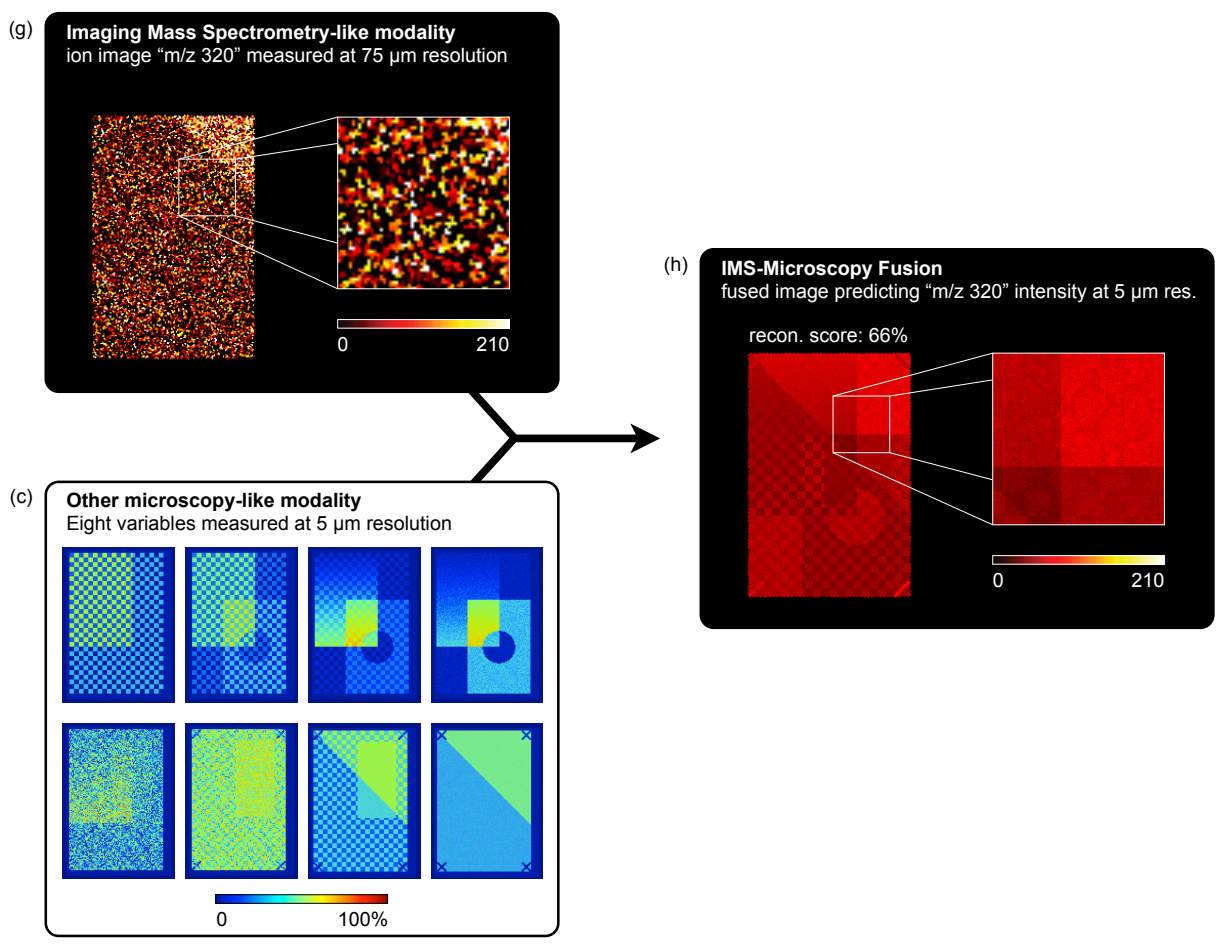
Fusion for cross-modally supported IMS pattern with strong multi-modal relationships (reconstruction score of 87%):



Fusion for cross-modally supported IMS pattern with weak global but strong local multi-modal relationships (recon. score of 81%):



Fusion for modality-specific IMS pattern with no multi-modal relationships (reconstruction score of 66%):



Supplementary Figure 17 Prediction of ion distributions from a synthetic multi-modal data set with known cross-modal and modality-specific patterns (sharpening). The fusion task consists of integrating an IMS-like modality at 75 µm spatial resolution with a microscopy-like modality acquired at 5 µm (both with noise added), and to sharpen the IMS-like patterns to 5 µm. The fusion method successfully finds all embedded cross-modal patterns and provides prediction for (**top**) a pattern with strong cross-modal support across the entire tissue (reconstr. score 87%), (**middle**) a pattern with partial cross-modal support (reconstr. score 81%, the location of good prediction is pinpointed via the absolute residual image), and (**bottom**) a modality-specific pattern with little to no cross-modal support (reconstr. score 66%).