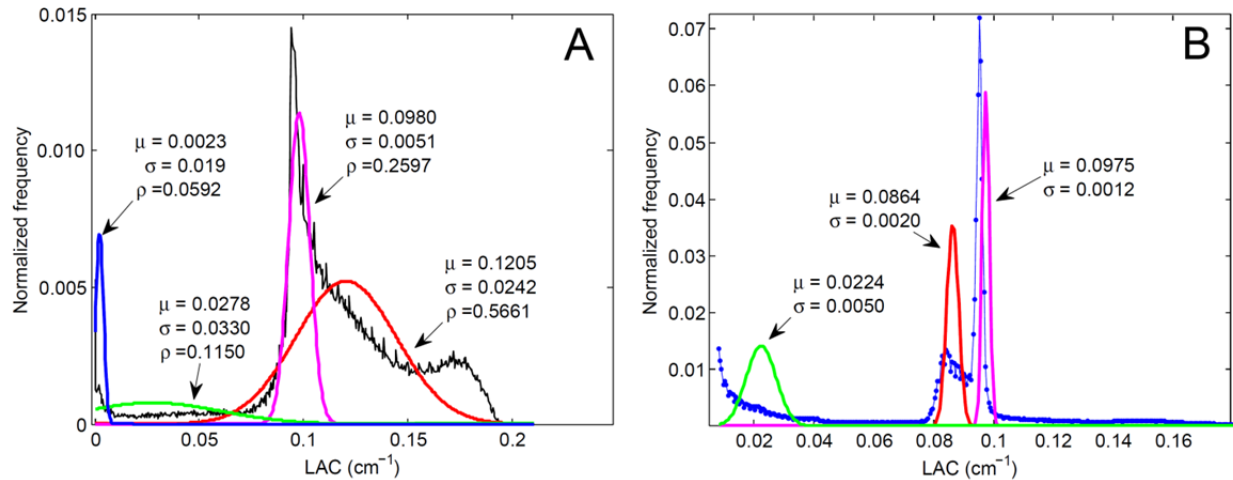
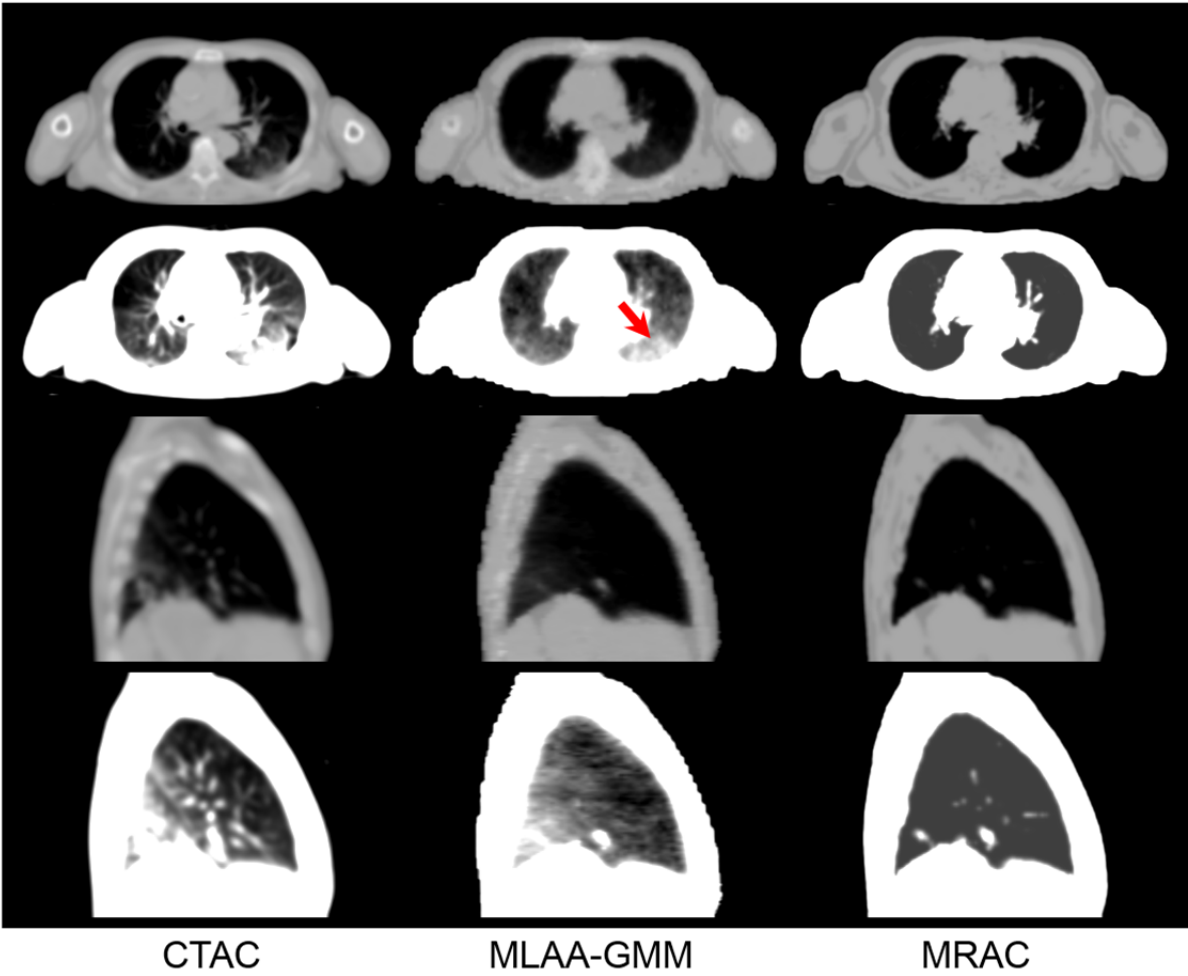


SUPPLEMENTAL FIGURE 1. Diagram of the data acquisition protocol for PET/MRI and complementary PET/CT scans. During the uptake period, the patients undergo various diagnostic MRI scans (40-min) followed by a Dixon and Philips atMR sequences (about 2.5 min each), the latter being used for attenuation correction of the PET data. A 30 min whole-body PET scan is then followed. After the patient transfer time of 10-20 min, a head and neck complementary PET/CT scan is acquired for about 13 min.



SUPPLEMENTAL FIGURE 2. (A) The estimated mean (μ), standard deviation (σ), and mixture proportion (ρ) parameters of the Gaussian mixture model used in this work. The parameters were obtained from 10 whole-body CTAC maps (5 males and 5 females) using an expectation maximization algorithm. (B) The uni-modal Gaussians used for the known fat, non-fat soft and lung tissue classes are overlaid on the histogram of attenuation coefficients of a single patient dataset. Note that in this study, we set the means of uni-modal Gaussians to those of tissue attenuation coefficients used in the standard 4-class MRI-guided attenuation correction.



SUPPLEMENTAL FIGURE 3. Comparison of attenuation maps produced by the standard 4-class MRI-based method (MRAC) and the MLAA algorithm with the reference CTAC maps in two different displaying windows. Note the improvement brought by the MLAA approach.