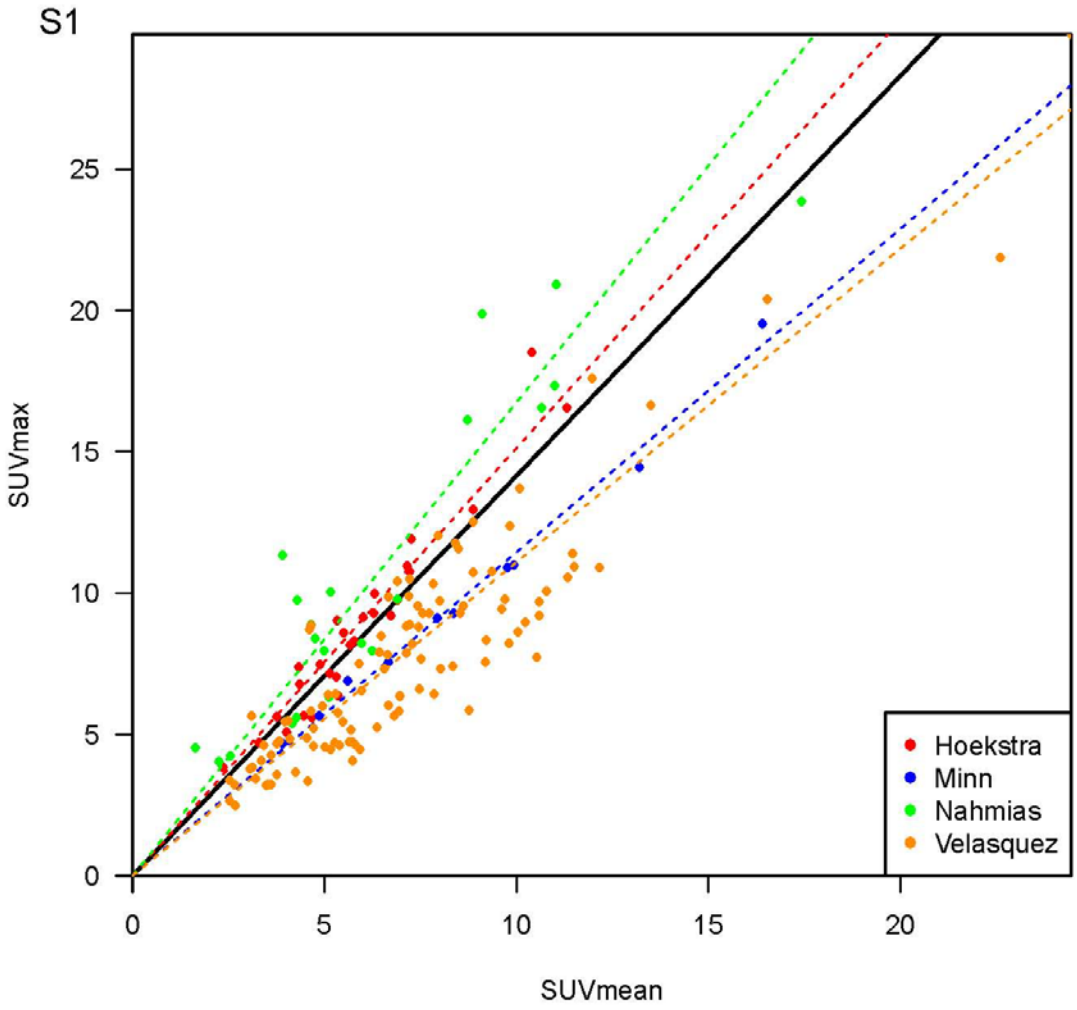
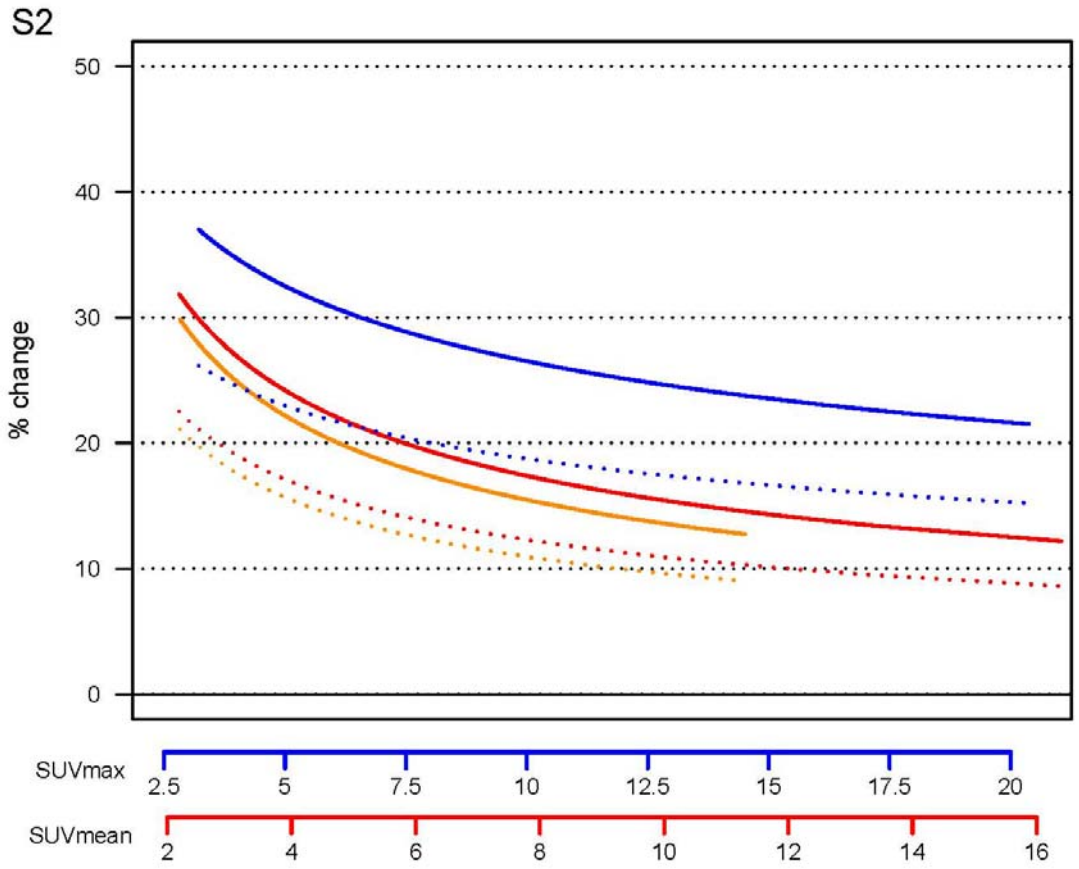
Supplemental TABLE 1. Required Relative and Absolute Differences to Exceed Test-retest Variability*

	Relative difference	Absolute difference
SUV_{max}	15%	3.2
	20%	1.6
	25%	0.9
SUV_{mean} H,N,M,W,V	10%	1.21
	15%	0.77
	20%	0.55
SUV_{mean} H,N*,W	10%	0.93
	15%	0.62
	20%	0.48

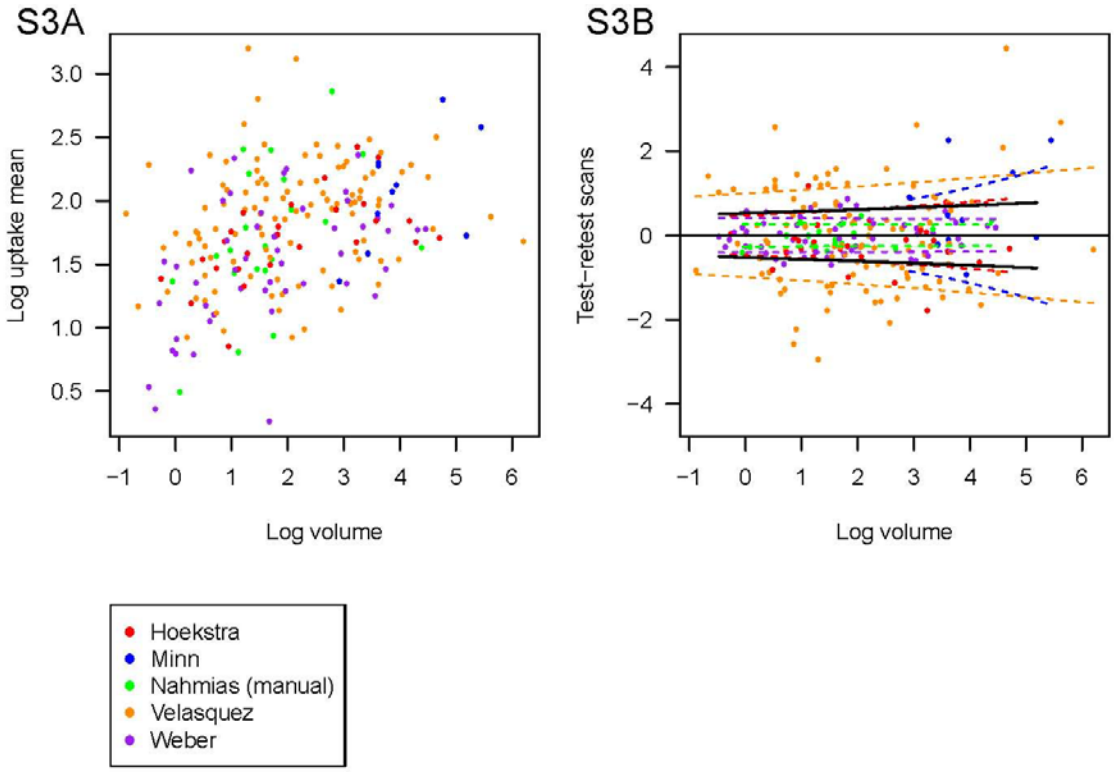
* Listed are the relative and absolute differences required for a difference to have less than 5% probability of being due to measurement error, when comparing a single PET observation to a fixed value. Differences have to exceed both the relative and absolute thresholds.



Supplemental FIGURE 1. A comparison of published study-specific first principal components (dashed lines) with the first principal component calculated from pooled data (black solid line).



Supplemental FIGURE 2. A comparison of CR95s (i.e. mean-variance relations) for SUV_{max} (blue), SUV_{mean} (all data; red) and SUV_{mean} (50% isocontour; orange). The scales are matched via the first principle component (Figure S1). Solid lines represent the test-retest CR95s, while the dotted lines are the one observation CR95s (i.e. variance divided by √2).



Supplemental FIGURE 3. SUV_{mean} repeatability with respect to tumor volume. (A) The log of the tumor uptake plotted against the log of the tumor volume. (B) The estimated published study-specific standard deviations (dashed lines) and the model fit with published study as a random factor (solid line).