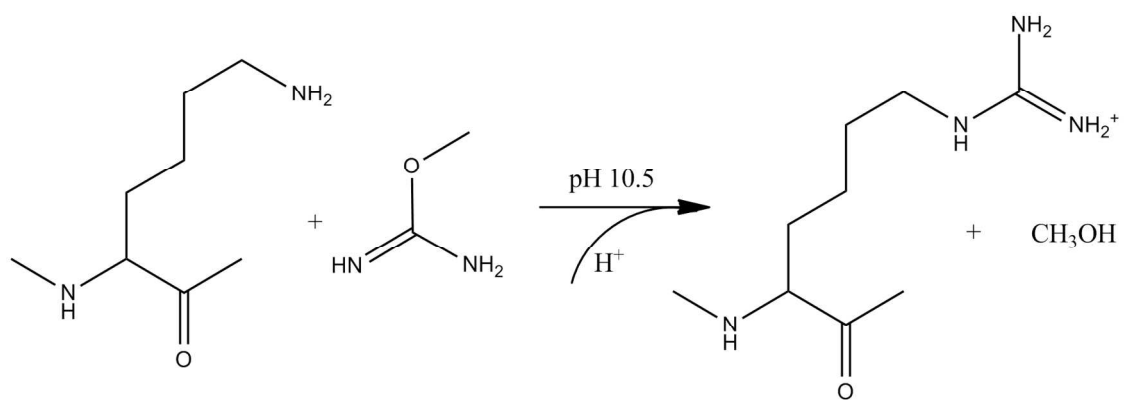


Supplementary Figure 1. Extracted ion chromatograms (XICs) showing the relative abundance of unlabeled (top) and SATA-labeled (bottom) peptide pairs from BSA. The labeled BSA was digested by trypsin and peptides were analyzed by LC-LTQ MS. All possible unlabeled forms of the peptides (top) were observed with <1% or <2% based on the peak area comparison between top and bottom panels.



Supplementary Figure 2. The guanylation of lysine ϵ -amine. The pKa of lysine is ~ 10.5 . At pH ~ 10.5 , lysine ϵ -amine serves as a nucleophile to react with *O*-methylisourea.

