What is claimed is:

1. A method for quantifying or characterizing conjugation of at least one attachment linked to at least one specific conjugation site of a partially conjugated peptide or protein in a sample, comprising:

cleaving a portion of the at least one attachment to generate a peptide or protein containing a cleaved linker, wherein the attachment comprises the cleaved linker;

adding a modified linker to an unconjugated conjugation site of the partially conjugated peptide or protein;

subjecting the sample to mass analysis to identify the peptide or protein containing the cleaved linker and/or the modified linker.

2. The method of claim 1, wherein the at least one attachment comprises a linker and a payload, wherein the cleaved portion of the attachment comprises the payload and wherein the linker comprises the cleaved linker.

3. The method of claim 1, further comprising quantifying or characterizing the site-specific conjugation of the attachment based on quantifying the cleaved linker and the modified linker.

4. The method of claim 1, wherein the mass analysis is conducted using a mass spectrometer, electrospray ionization mass spectrometer, nano-electrospray ionization mass spectrometer or a triple quadrupole mass spectrometer, wherein the mass spectrometer can be coupled to a liquid chromatography system and wherein the mass spectrometer is capable of performing a LC-MS (liquid chromatography-mass spectrometry), a LC-MRM-MS (liquid chromatography-multiple reaction monitoring-mass spectrometry) or a LC-MS/MS analyses.

5. The method of claim 1, further comprising treating the peptide or protein with an enzyme prior to cleaving the portion of the attachment and/or prior to adding the modified linker to the unconjugated conjugation site.

6. The method of claim 1, further comprising treating the sample with an enzyme prior to subjecting the sample to the mass analysis.

7. The method of claim 1, wherein the portion of the attachment is cleaved using an enzyme, a protease, a chemical, an acid, a base, or a reducing agent.

8. The method of claim 1, wherein the step of adding the modified linker to the unconjugated conjugation site is performed prior to conducting the step of cleaving the portion of the attachment.

9. The method of claim 1, wherein the step of cleaving a portion of the attachment is performed prior to conducting the step of adding a modified linker and the step of subjecting the sample to mass analysis.

10. The method of claim 1, wherein a molecular weight of the modified linker is different from a molecular weight of the cleaved linker.

11. The method of claim 5, wherein the enzyme is trypsin.

12. The method of claim 1, wherein the portion of the attachment is cleaved using papain, cathepsin B, or plasmin.

13. The method of claim 6, wherein the enzyme is Glu-C.

14. The method of claim 1, wherein the specific conjugation site or the unconjugated conjugation site is located within a cysteine residue of the peptide or the protein.

15. The method of claim 1, wherein the attachment is linked to the at least one specific conjugation site through a maleimide attachment group.