PHOTO-CLEAVABLE SURFACTANTS

View U.S. Patent No. 11,567,085 in PDF format.

WARF: P180335US03

Inventors: Ying Ge, Song Jin, Tania Guardado Alvarez, Kyle Brown

The Invention

UW-Madison researchers have developed photo-cleavable anionic surfactants, particularly 4-hexylphenylazosulfonate (Azo) and sodium 4-hexylphenylazosulfonate derivatives, which can be rapidly degraded upon UV irradiation. These surfactants can effectively solubilize proteins and peptide fragments with performance comparable to sodium dodecyl sulfate (SDS) and are compatible with mass spectrometry (MS) analysis. When combined with Azo, MS-based top-down proteomic studies enabled the detection of 100-fold more unique proteoforms when compared to controls. In addition, Azo is able to solubilize membrane proteins for comprehensive characterization of protein post-trans-modifications. Finally, these photo-cleavable anionic surfactants are also suitable for dissolving polypeptides in bottom-up proteomic experiments including extracellular matrix proteomics, and are suitable as a substitute for SDS in gel electrophoresis.

Additional Information

For More Information About the Inventors

- Song Jin

Tech Fields

- Research Tools : Genomics & proteomics

For current licensing status, please contact Jennifer Gottwald at jennifer@warf.org or 608-960-9854