

[Request Information](#)

[Permalink](#)

## Cross-Linkers to Advance Protein-Protein Interaction Studies

Tech ID: 33881 / UC Case 2023-808-0

### BRIEF DESCRIPTION

A novel approach to studying protein-protein interactions using trioxane-based cross-linking mass spectrometry.

### FULL DESCRIPTION

This technology introduces a new suite of sulfoxide-containing, MS-cleavable cross-linking reagents that utilize trioxane as the cleavable site, enhancing the study of protein-protein interactions (PPIs) by allowing more flexible cross-linker design and improving the capture of PPIs in 3-D space. Through the use of DSTO, TSTO, and TDSTO cross-linkers, this method enables efficient, accurate, and robust identification of cross-linked peptides, providing crucial insights into the architecture of protein complexes without the need for cell engineering.

### SUGGESTED USES

- » Structural biology research and protein complex architecture elucidation.
- » Drug discovery by targeting specific protein-protein interactions.
- » Biotechnological advancements in understanding cellular functionality and physiological states.
- » Development of novel therapeutic strategies based on the mechanistic functions of protein complexes.

### ADVANTAGES

- » Enables the capture of endogenous protein-protein interactions without cell engineering.
- » Provides distance constraints at specific residues, aiding in the refinement of protein structures.
- » Improves flexibility in cross-linker design with trioxane's multiple extension sites.
- » Facilitates the identification of cross-linked peptides containing three individual peptides, offering additional structural information.
- » Ensures robust MS-cleavability for simplified identification in multistage tandem mass spectrometry analysis workflows.

### PATENT STATUS

Patent Pending

### CONTACT

Richard Y. Tun  
tunr@uci.edu  
tel: 949-824-3586.



### OTHER INFORMATION

#### CATEGORIZED AS

- » **Medical**
- » Research Tools
- » **Research Tools**
- » Other

#### RELATED CASES

2023-808-0

**UCI** Beall  
Applied Innovation

5270 California Avenue / Irvine, CA  
92697-7700 / Tel: 949.824.2683



© 2024, The Regents of the University of  
California  
[Terms of use](#)  
[Privacy Notice](#)