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New Collision-Induced Dissociation Cross Linker and Related Software Package for Fast and Accurate Mass Spectrometry Analysis of Proteins

Tech ID: 21327 / UC Case 2010-689-0

BRIEF DESCRIPTION

Researchers at the University of California, Irvine have developed a new and novel mass spectrometry (MS) cleavable disuccinimidyl sulfoxide (DSSO) cross-linker for MS analysis of proteins. This DSSO cross-linker contains two symmetric collision-induced dissociation (CID) cleavable sites that allow for effective identification of DSSO-cross-linked peptides based on their distinct fragmentation patterns unique to cross-linking types such as interlink, intralink, and dead-ends.

A software package was also developed to be used with the DSSO cross linker. This software performs an integrated data analysis workflow for identifying DSSO-cross-linked peptides.

ADVANTAGES

This new cross-linker allows for the MS analysis of multi-subunit protein complexes. In addition, the accompanying software package allows for the fast and accurate identification of DSSO-cross-linked peptides via MS.

STATE OF DEVELOPMENT

This cross-linker and its accompanying software have been successfully used for the structural characterization of yeast 20 S proteasome complex and also demonstrated is identifying and characterizing model peptides and proteins.

PATENT STATUS

Country	Type	Number	Dated	Case
United States Of America	Issued Patent	10,393,752	08/27/2019	2010-689
United States Of America	Issued Patent	9,222,943	12/29/2015	2010-689

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OTHER INFORMATION

KEYWORDS

mass spec, mass spectrometry, MS, cross-linkers, CID

CATEGORIZED AS

- » **Research Tools**
- » Reagents

RELATED CASES

2010-689-0

ADDITIONAL TECHNOLOGIES BY THESE INVENTORS

- ▶ New Cross-Linking Mass Spectrometry Platform: SDASO-L, SDASO-M, and SDASO-S
- ▶ New Sulfoxide-Containing MS-Cleavable Cross-Linker for Proteomics

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