

SITE-SPECIFIC COUPLING OF BIOMOLECULES USING ORTHOQUINONES AND THIOLS

Tech ID: 30184 / UC Case 2019-106-0

PATENT STATUS

Country	Type	Number	Dated	Case
Japan	Published Application	2025-029024	03/05/2025	2019-106
Hong Kong	Published Application	40065749	08/05/2022	2019-106
Japan	Published Application	2022-527247	06/01/2022	2019-106
United States Of America	Published Application	20220153779	05/19/2022	2019-106
European Patent Office	Published Application	3941927 A0	01/26/2022	2019-106
China	Published Application	CN113891893A	01/04/2022	2019-106
India	Published Application	53/2021	12/31/2021	2019-106
Australia	Published Application	WO 2020/197934	10/01/2020	2019-106
Canada	Published Application	WO 2020/197934	10/01/2020	2019-106
Rep Of Korea	Published Application	WO 2020/197934	10/01/2020	2019-106

Additional Patent Pending

BRIEF DESCRIPTION

The inventors have developed an enzymatically catalyzed method for simple and rapid coupling of biomolecules to native amino acids on protein surfaces. This method is capable of attaching tyrosine or phenol containing molecules, peptides, or proteins to cystine or thiol containing targets at neutral pH with high yields. The inventors demonstrate the utility of this system by modifying Cas9 and other proteins with fluorophores, peptides, and whole proteins, such as green fluorescent proteins (GFPs) and antibody short chain variable fragments. This technology represents a novel paradigm in biomolecule coupling.

SUGGESTED USES

This technology has significant implications in delivery of CRISPR proteins as therapeutics, antibody conjugation for immune based therapies, biomaterial construction, and vaccine development.

ADDITIONAL TECHNOLOGIES BY THESE INVENTORS

- ▶ Compositions and Methods for Modification of Cells
- ▶ High Throughput Surface Patterning of Small Molecules and Biomolecules (Option-Agilent)

CONTACT

Terri Sale
terri.sale@berkeley.edu
tel: 510-643-4219.



INVENTORS

» Francis, Matthew B.

OTHER INFORMATION

CATEGORIZED AS

- » **Biotechnology**
- » Health
- » **Materials & Chemicals**
- » Biological
- » Chemicals
- » Nanomaterials
- » **Medical**
- » New Chemical Entities, Drug Leads
- » **Nanotechnology**
- » NanoBio
- » **Research Tools**
- » Protein Synthesis

RELATED CASES

2019-106-0

