

Click Chemistry (2600)

Structural Classification

[Azide \(1047\)](#)

[Alkynes \(764\)](#)

[DBCO \(201\)](#)

[TCO \(105\)](#)

[Tetrazine \(134\)](#)

[BCN \(81\)](#)

CLICK CHEMISTRY IS USED TO DESCRIBE THE SELECTIVE, MODULAR, WIDE RANGE AND HIGH-YIELD CHEMICAL REACTIONS THAT ALLOW RAPID SYNTHESIS OF NEW COMPOUNDS THROUGH HETEROATOM LINKING (C-X-C). BERTOZZI DEVELOPED CLICK CHEMISTRY IN A NEW DIMENSION —BIOORTHOGONAL CHEMISTRY. IT IS DEFINED AS A RAPID AND SELECTIVE REACTION THAT DOES NOT INTERFERE WITH BIOLOGICAL PROCESSES UNDER PHYSIOLOGICAL CONDITIONS. COMMON REACTION STRUCTURES OF CLICK CHEMISTRY, SUCH AS AZIDE, ALKYNE, DBCO, BCN, TCO AND TETRAZINE. CLICK CHEMISTRY REACTIONS CAN BE CATEGORIZED INTO THREE CATEGORIES:

- (1) COPPER(I)-CATALYZED AZIDE-ALKYNE CYCLOADDITION (CUAAC);
- (2) STRAIN-PROMOTED ALKYNE-AZIDE CYCLOADDITION (SPAAC);
- (3) INVERSE-ELECTRON-DEMAND DIELS-ALDER (IEDDA).

AS A SIMPLE AND EFFICIENT CONNECTION METHOD, CLICK CHEMISTRY IS WIDELY USED IN BIOMEDICAL FIELDS, SUCH AS FLUORESCENCE IMAGING, TARGETED THERAPY, ADC SYNTHESIS AND PROTAC SYNTHESIS.

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