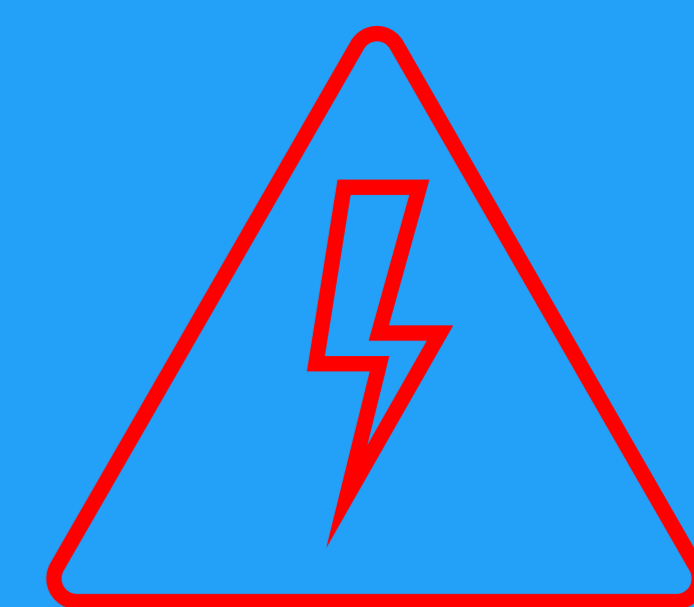
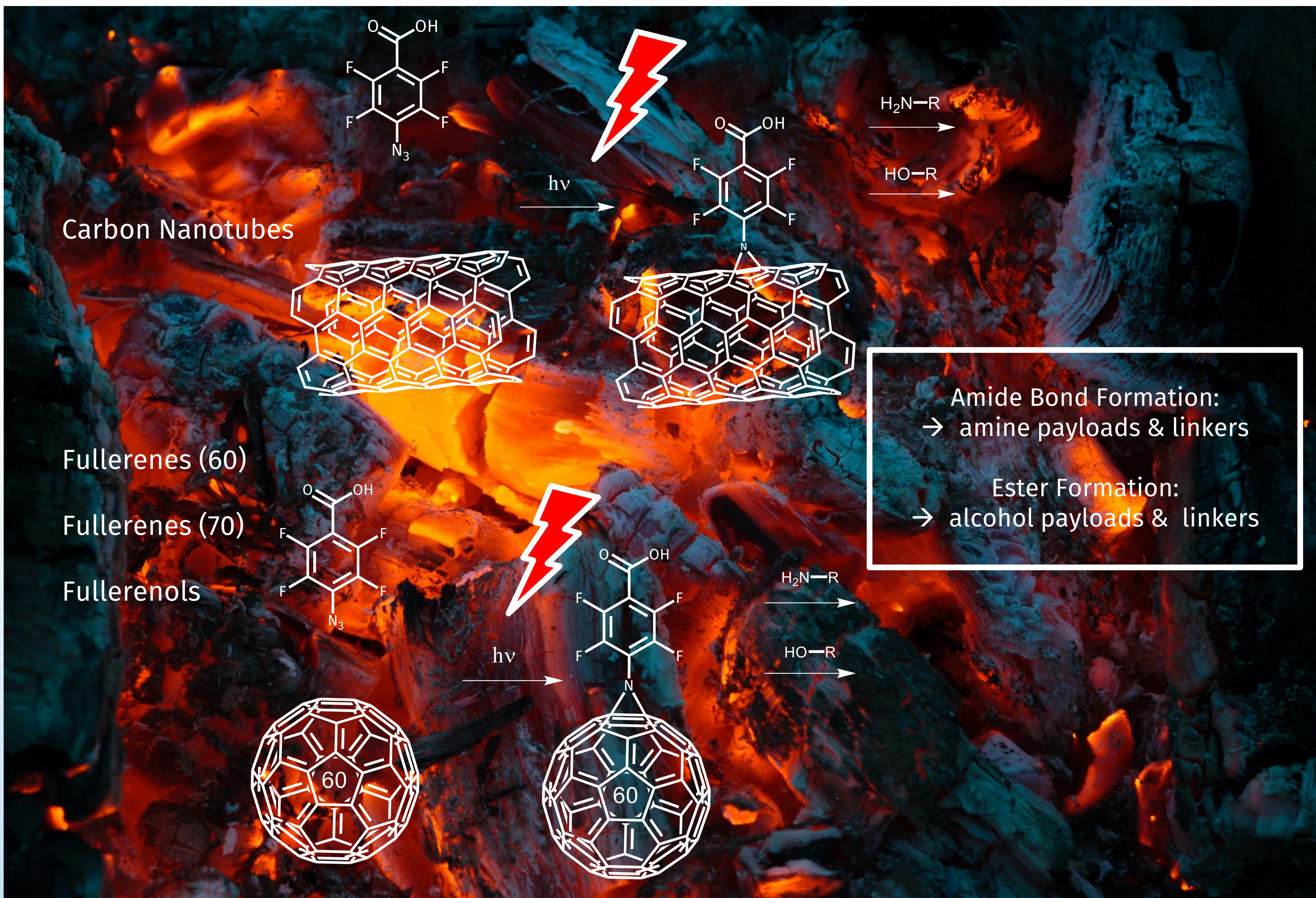


Linkerology®

2023 # 04 – Linker Attachment to Carbon Compounds



Examples how Carbon Compounds can be Decorated with (Self-Immolative) Linkers



Linkerology® - Conceptual Overview

Carrier	Surface Treatment & Conjugation Chemistry	Cleavage	Fragmentation	Functionality of Natural Product
Metal surface	Affinity of sulfur to gold and silver	Enzymatic hydrolysis: • Val-Ala • Val-Cit • Phe-Lys • Gly-Phe-Leu-Gly • Ala-Leu-Ala-Leu • Cyclobutyl-Ala • Cyclobutyl-Cit • Glucuronic acid	<p><i>p</i>-Aminobenzyl <i>p</i>-Hydroxybenzyl</p> <p>Oxathiolone</p> <p>Dimethylimidazolidinone</p>	Primary & secondary amines Tertiary amines Alcohols Phenols Carboxylic acids
Metal oxide	Chelat formation			
Silicates	Affinity of silicon and oxygen	Reduction 		
Carbon: • Nanotubes • Fullerenes	Nitrenen addition via photoactivation of perfluoroarylazides			
Plastic polymers: • Teflon • Polyethylene • Polystyrene • Latex	Ammonia or acrylic acid plasma followed by amide bond formation	Acidic hydrolysis 		
Biopolymers: • Peptides • Proteins • Antibodies • Single Chain • Nanobodies • Camelids • Oligonucleotides • Aptamers	Thioether formation with maleimide Disulfide bond formation Acylation of Amines His-Tag acylation Click conjugation (CuCAAC, SPAAC, IEDDA) Enzyme supported conjugation: HaloTag® CLIP-Tag™ SNAP-Tag® Sequence dependent conjugation (Sortase)			