# Synthetic Study on ADP-ribosylation

Liu, Q.

# **Proposition** (Stellingen)

*Accompanying the thesis*

Synthetic study on ADP-ribosylation

1. The use of ‘‘parobiose’’ for the disaccharide in linear PAR and “parotriose” for the trisaccharide in branched PAR favors the scientific communication.
*This Thesis*

2. A solid-phase synthesis of ADPr-oligomers is preferred compared to a solution-phase approach.
*J. Am. Chem. Soc.* **2015**, 137, 10, 3558, *This thesis*.

3. The branched structure elements in poly-ADP-ribose, of which the function is unknown, may determine the overall conformation of poly-ADP-ribose.
Miwa *et al*, *J. Bio. Chem.*, **1981**, 256, 2916.

4. The introduction of multiple pyrophosphate linkages is the biggest challenge in the synthesis of ADPr-oligomers.
*This Thesis*

5. Although it was discovered 40 years ago, branched poly-ADPr (PAR) has always been an enigma in the ADPr biology.
*This Thesis*

6. The detection of PAR (poly ADP-ribose), as a biomarker, could be useful for the future early diagnosis of neurodegeneration disorders.
Kam *et al*, *Science*, **2018**, 362, 557.

7. Because the sensitivity of tumors for PARP inhibitors does not overlap with that for PARG inhibitors, a combination therapy is a viable option.
Pillay *et al*, *Cancer Cell*, **2019**, 35, 519.

8. It is the duty of chemists to persuade ADPr-biologists to draw the structures of ADP-ribose with correct stereochemistry.

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