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# Styrene maleic acid derivatives to enhance the applications of bio-inspired polymer based lipid-nanodiscs

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## Abstract

### 1. Introduction

1.1 Membrane mimetics are essential to functionally reconstitute membrane proteins

1.2 Curvature-free lipid nanodiscs enabled structural studies of membrane proteins

### 2. Polymer nanodiscs

2.1 Styrene: maleic acid copolymers

2.2 Expanding the range of sizes nanodiscs by using SMA-EA

2.3 Acidic compatible polymer nanodiscs using SMA-ED and SMAd-A

2.4 Robust pH resistant nanodiscs using SMA-QA

### 3. Conclusions and future directions

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