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Ochadai Academic Production

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Major

Supramolecular chemistry

#### ■ Research topics

### Chemical Engineering of Bacteria through Cell-Wall Biosynthesis

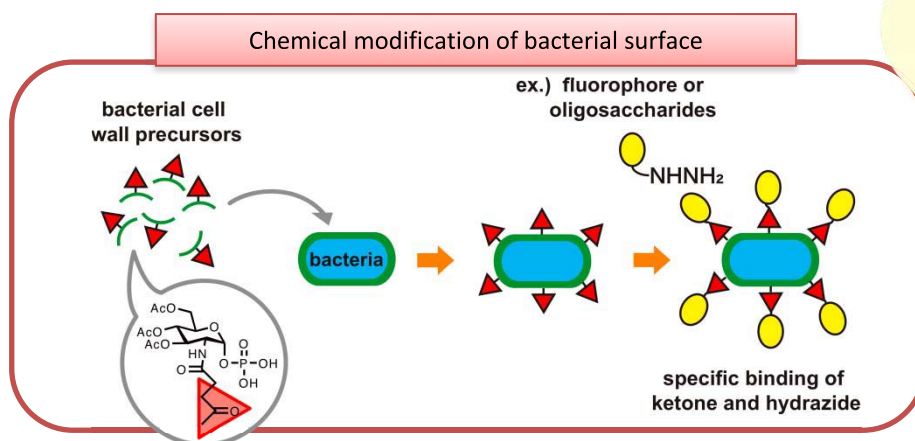
#### Keywords

Chemical biology, Biomimetic chemistry, Cell-surface engineering

#### Contents

##### ■ Overview (background, goal, detail)

Our recent research has focused on the chemical modification of the bacterial cell wall via the biosynthetic route with possible applications to the development of functional bacteria; for example, bacteria that can be modified chemically to display artificial sugar moieties on the surface, thus affording unique adhesion properties. Based on this chemical approach, which differs from simple genetic modification, new technological innovations can be expected.



#### Potential of social/industrial contribution

■ Joint research/ licensing / technical consulting / knowledge sharing (open courses, workshops, publications)

ACADEMIC  
PRODUCTION

Supramolecular  
Chemistry

Expected  
applications

mucosal vaccine

enzymatic reaction

removal of harmful chemicals

biosensor