

Innovative catalytic materials and supports for low temperature biomass conversion processes

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CATALYTIC MATERIALS based on modified TiO_2 - 2 strategies for modification

1st strategy

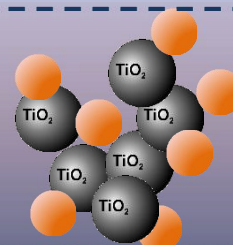
- support modification

Titanium Isopropoxide (precursor)

Ca/Ba/Mg salts



modified sol-gel process

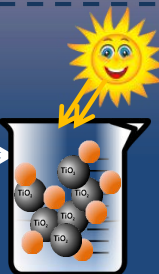


● = $\text{Me}_x\text{Ti}_y\text{O}_z$
where Me = Ca, Ba, Mg

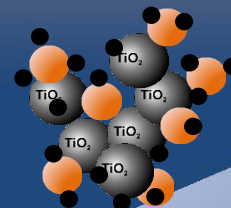
2nd strategy

-deposition of Ru particles

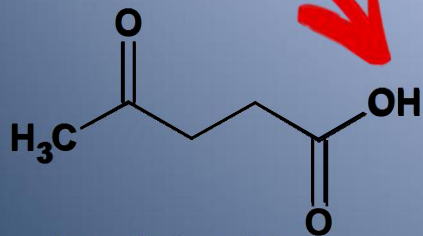
Ru(acac)₃ solution



photodeposition

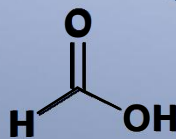


cellulose hydrolysis

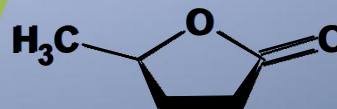


levulinic acid

+



formic acid



γ -valerolactone

+



+



BIOFUEL