

Bio-based production of crotonic acid from wastewater



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Crotonic acid
a promising chemical used in industry today!


Drop-in chemical

High value of € 5 – 10 per kg

Use in polymer products
paints, adhesives, glass fiber, ...

Difficult petrochemical route

Stable supply challenges for Wacker Chemie,
also Arkema interested



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University of Twente and Paques
A team capable of developing a new production method!

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High impact research on separation technologies!

Together for 5 years of successful collaboration on VFA recovery technology!

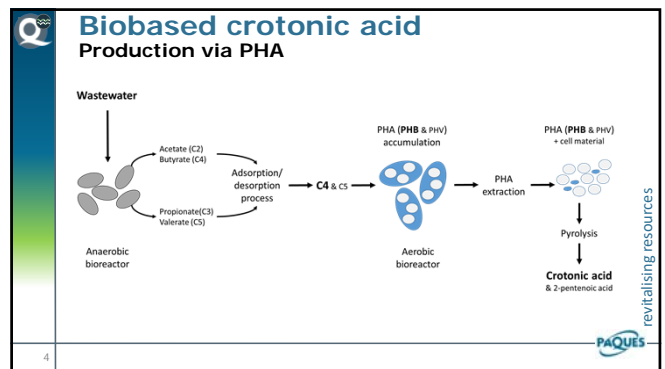
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Global leader in resource recovery from wastewater!
> 10 years experience on PHA technology – on the way to full scale!

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Biobased crotonic acid
Production via PHA



Wastewater

Acetate (C2)
Butyrate (C4)
Propionate (C3)
Valerate (C5)

Anaerobic bioreactor

Adsorption/desorption process → C4 & C5

Aerobic bioreactor

PHA (PHB & PHV) accumulation

PHA extraction

PHA (PHB & PHV) + cell material

Pyrolysis

Crotonic acid & 2-pentenoic acid

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