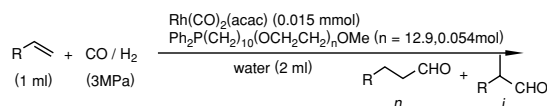


# Hydroformylation Reaction of Higher Olefin in the Aqueous Solution

Organic synthesis in the aqueous solution is a very active field. We synthesized amphiphilic ligands, which had phosphino alkyl group as a hydrophilic part and PEG as a lipophilic part. In the presence of the ligand and rhodium catalysts, hydroformylation of higher olefins in the aqueous solution proceeded to giving the corresponding aldehydes in good yields. The catalyst could be easily separated from products and recycled efficiently.



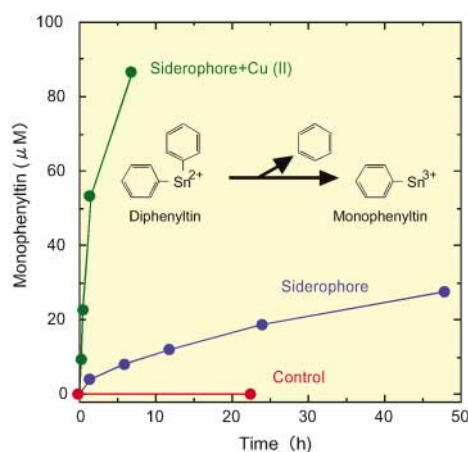
entry	R	yield	n/i	
1	<sup>n</sup> Hex	80%	72/28	(cycle 1)
2		74%	72/28	(cycle 2)
3		87%	71/29	(cycle 3)
4	<sup>n</sup> Dex	78%	72/28	

Hydroformylation in the Aqueous Solution

Shun-ya ONOZAWA  
Institute for Materials &  
Chemical Process  
e-mail:  
s-onozawa@aist.go.jp  
AIST Today Vol. 2,  
No. 10 (2002) 9

# Degradation of Organotin Compounds by Peptide Siderophore

Organotin contamination caused by antifouling paints and agrochemicals has been considered to be one of important ecotoxicological problems. We discovered that a bacterial peptide siderophore (pyoverdine), which is a powerful Fe<sup>3+</sup> chelator and an efficient Fe<sup>3+</sup> transporter, possesses a catalytic function for organotin degradation. The reaction leads to the dephenylation of tri- and diphenyltin under mild conditions. Furthermore, the activity for diphenyltin is increased by addition of Cu<sup>2+</sup>, suggesting that the siderophore also behaves as a metal-complexation catalyst. The new function found in peptide siderophore should be available for the design of a functional chelator to degrade trace organometallic compounds.



Degradation of diphenyltin by siderophore and siderophore-Cu (II) complex

Hiroyuki INOUE  
Institute for Marine  
Resources and  
Environment  
e-mail: inoue-h@aist.go.jp  
AIST Today Vol. 2,  
No. 10 (2002) 10