Strem Chemicals, Inc

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Catalog # 15-8013 Tris(3-sulfonatophenyl)phosphine hydrate, sodium salt (<5% oxide) TPPTS · Na₃

Air-stable, water-soluble phosphine ligand generally used for coupling and hydroformylation reactions

Technical Notes:

- 1. Gold compounds as efficient co-catalysts in palladium-catalyzed alkynylation.
- 2. Aqueous-biphasic hydroformylation of higher alkenes promoted by alkylimidazolium salts.
- 3. Arylation of Phe and Tyr side chains of unprotected peptides by a Suzuki-Miyaura reaction in water.
- Sterically demanding, sulfonated, triarylphosphines: Application to Palladium-Catalyzed Cross-coupling steric and electronic properties, and coordination chemistry.
- 5. Hydrogen generation: catalytic acceleration and control by light.
- 6. Postsynthetic guanine arylation of DNA by Suzuki-Miyaura Cross-Coupling.
- 7. Experimental and kinetic modeling studies on the biphasic hydrogenation of levulinic acid to γ-valerolactone using a homogeneous water-soluble Ru–(TPPTS) catalyst.
- 8. Ruthenium-catalyzed [2+2+2] cycloaddition of diynes with nitriles in pure water.
- 9. Hydroesterification of styrene derivatives catalyzed by an acidic resin supporting palladium complexes.
- 10. Chemical synthesis of Cys-Containing protein via chemoselective deprotection with different palladium complexes.

$$R + CO + H_2$$
 [Rh] TPPTS $R + CHO + R$ Tech. Note (2) Ref. (2)

Br
$$B(OH)_2$$
 $Pd(OAc)_2$ (2.5 mol%) $R' = 4$ $B(OH)_2$ $B(OH)_2$ $B(OAc)_2$ (2.5 mol%) $B(OAc)_2$ (2.5 mol%) $B(OAc)_2$ $B(OC)_2$ $B(OC)_2$ $B(OAc)_2$ $B(OC)_2$ $B(OC)$

Light-accelerated hydrogen generation from formate

Ar = Ph; p-OBnPh; p-OPh; o-OHPh; 2-Benzothiophene

$$H_3C$$

OH

 H_3C

TsN + CI CN
$$Cp^*Ru(COD)CI$$
, ligand TsN CI CI $Ref. (8)$

+ CO + R²OH
$$\xrightarrow{\text{Pd-P-OP/ligand/SI-600}}$$
 $\xrightarrow{\text{COOR}^2}$ $\xrightarrow{\text{COOR}^2}$ $\xrightarrow{\text{Tech. Note (9)}}$ $\xrightarrow{\text{Rf. (9)}}$ $\xrightarrow{\text{Rf. (9)}}$

 $R^1 = H, CH_3, C(CH_3)_3$

 $R^2 = CH_3$, CH_3CH_2 , $CH(CH_3)_2$, $CH_3CH_2CH_2$

References:

- 1. Catal. Today, 2007, 122, 403.
- 2. Chem. Commun., 2007, 1933.
- 3. Org. Lett., 2008, 10, 3243.
- 4. Organometallics, 2008, 27, 576.
- 5. Chem. Commun., 2009, 4185.
- 6. J. Am. Chem. Soc., 2011, 133, 42.
- 7. J. Mol. Catal. A, Chem., 2011, 341, 14.
- 8. ChemSusChem, 2012, 5, 854.
- 9. Catal. Sci. Technol., 2014, 4, 1092.
- 10. Org. Lett., 2008, 10, 3243.