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Catalytic allylation of phenols : chloride-free route towards epoxy resins

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List of abbreviations

2,2-dppp	2,2-bis(diphenylphosphino)propane
2,2-dpp	2,2-diphosphinopropane
2,3-dppb	2,3-bis(diphenylphosphino)butane
2,4-dppt	2,4-bis(diphenylphosphino)pentane
Ac	acetyl
An	anisyl
Ar	aromatic
binap	2,2'-bis(diphenylphosphino)-1,1'-binaphthyl
BPA	Bisphenol A
Bu	butyl
cod	1,5-cyclooctadiene
Cp	η^5 -cyclopentadienyl
Cp*	η^5 -pentamethylcyclopentadienyl
CP MAS	Cross Polarization Magic Angle Spinning
DVB	1,4-divinylbenzene
CSD	Cambridge Structural Database
Cy	cyclohexyl
DAE	diallyl ether
dba	dibenzylideneacetone
dcpe	1,2-bis(dicyclohexylphosphino)ethane
DEAD	diethylazodicarboxylate
DFT	density functional theory
dmdpp	2,2-dimethyl-1,3-diphosphinopropane
dmpp	1,3-bis(dimethylphosphino)propane
dpb	1,4-diphosphinobutane
dpe	1,2-diphosphinoethane
dpm	diphosphinomethane
dpp	1,3-diphosphinopropane
dppb	1,4-bis(diphenylphosphino)butane
dppdep	2,2-diethyl-1,3-bis(diphenylphosphino)propane
dppdmp	2,2-dimethyl-1,3-bis(diphenylphosphino)propane
dppe	1,2-bis(diphenylphosphino)ethane
dppf	1,1'-bis(diphenylphosphino)ferrocene
dppib	(diphenylphosphino)isobutene
dppm	bis(diphenylphosphino)methane
dppp	1,3-bis(diphenylphosphino)propane
dpppe	bis(2-diphenylphosphinophenyl) ether
dpttms	α,α' -bis(diphenylphosphino)tetramethylsilane
dtbpe	1,2-bis(di- <i>tert</i> -butylphosphino)ethane
dtbpp	1,3-bis(di- <i>tert</i> -butylphosphino)propane
ECH	epichlorohydrin (= 2-[chloromethyl]oxirane)
Et	ethyl

GC	gas chromatography
<i>gem</i>	<i>geminal</i>
h	hour(s)
HPLC	high performance liquid chromatography
ICP-AES	inductively coupled plasma atomic emission spectrometry
Me	methyl
MS	mass spectrometry
NMR	nuclear magnetic resonance
<i>o</i>	<i>ortho</i>
<i>o</i> -EtOdppe	1,2-bis(di- <i>o</i> -ethoxyphenylphosphino)ethane
<i>o</i> -Medppp	1,3-bis(di- <i>o</i> -methylphenylphosphino)propane
<i>o</i> -MeOdppdmp	1,3-bis(di- <i>o</i> -methoxyphenylphosphino)-2,2-dimethylpropane
<i>o</i> -MeOdppe	1,2-bis(di- <i>o</i> -methoxyphenylphosphino)ethane
<i>o</i> -MeOdppm	bis(di- <i>o</i> -methoxyphenylphosphino)methane
<i>o</i> -MeOdppp	1,3-bis(di- <i>o</i> -methoxyphenylphosphino)propane
OTs	<i>para</i> -toluenesulfonate
<i>p</i>	<i>para</i>
PES	potential energy surface
Ph	phenyl
<i>p</i> -MeOdppp	1,3-bis(di- <i>p</i> -methoxyphenylphosphino)propane
PP	bidentate phosphine ligand
PPh ₃	triphenylphosphine
ppm	parts per million
Pr	propyl
<i>tert</i>	tertiary
THF	tetrahydrofuran
TMS	tetramethylsilane
TOF	turnover frequency (definition: mol of product formed per mol of catalyst precursor per hour)
tol	tolyl
TON	turnover number (definition: maximum formed mol of product per mol of catalyst precursor)
xantphos	4,5-bis(diphenylphosphino)-9,9-dimethylxanthene