>>**Entry Name: Bis(η^6-benzene)di-μ-chlorodichlorodiruthenium,** 9Cl
Synonym(s): Bis(η^6-benzene)tetrachlorodiruthenium

CAS Registry Number: 35796-48-6
Extra CAS Registry Numbers(s): 37366-09-9

As Bis(η^6-benzene)di-μ-bromodibromodiruthenium, FLM15-P with
X = Cl

Molecular Formula: $C_{12}H_{12}Cl_4Ru_2$
Molecular Weight: 500.178
Accurate Mass: 499.778004
Percentage Composition: C 28.82%; H 2.42%; Cl 28.35%; Ru 40.41%
Source/Synthesis: Synth. from $RuCl_3.xH_2O$ and 1,3-cyclohexadiene in aq. EtOH
Use/Importance: Alkene hydrogenation catalyst; with BINAP, catalyst for asymmetric hydrogenation of carbonyls; catalyst for coupling, alkylation of thiophenes, furans with ROH; catalyses dehydrogenation of hydroxy esters → α-keto esters and cyanohydrins → α-keto nitriles. Starting material for $(C_6H_6)Ru$ chemistry
Physical Description: Air-stable bright red solid
Melting Point: Mp 242 dec.°
Solubility: Sol. DMSO; insol. most solvs.
Other Data: Halide bridges cleaved by donor solvs., eg. MeCN, DMSO. Ir ν_{RuCl} 295, 259 cm^{-1}

>>**Derivative:** DMSO complex
Synonym(s): (η^6-Benzene)dichloro[sulfinylbis[methane]-*O*]ruthenium, 10Cl. (Benzene)dichloro(methyl sulfoxide)ruthenium, 8Cl

CAS Registry Number: 69058-50-0
Molecular Formula: $C_8H_{12}Cl_2ORuS$
Molecular Weight: 328.224
Accurate Mass: 327.902937
Percentage Composition: C 29.28%; H 3.68%; Cl 21.60%; O 4.87%; Ru 30.79%; S 9.77%
Source/Synthesis: Formed when the parent compd. is dissolved in DMSO
Use/Importance: Hydrogenation catalyst precursor
Physical Description: Red needles (EtOH aq.)
Melting Point: Mp 180 dec.°

>>**Derivative:** Polymer

CAS Registry Number: 12628-24-9
Physical Description: Brown solid
Melting Point: Mp 242°

>>**Derivative:** Monomer
Synonym(s): (η^6-Benzene)dichlororuthenium, 10Cl, 9Cl

CAS Registry Number: 51831-98-2
Molecular Formula: $C_6H_6Cl_2Ru$
Molecular Weight: 250.089
Accurate Mass: 249.889002
Percentage Composition: C 28.82%; H 2.42%; Cl 28.35%; Ru 40.41%

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Games, D.E. *et al.*, *J. Organomet. Chem.*, 1980, **193**, 229, *(ms)*
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Jaouhari, R. *et al.*, *Chem. Comm.*, 1986, 1255, *(use, coupling of thiophenes, furans with ROH)*
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