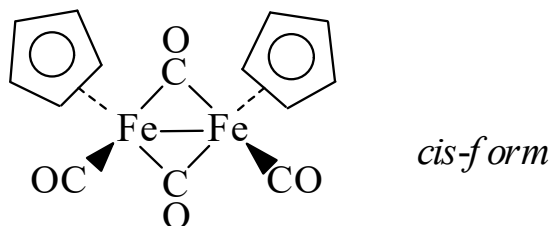




>>Entry Name: Di- μ -carbonyldicarbonylbis(η^5 -2,4-cyclopentadien-1-yl)diiron, 9Cl

Synonym(s): Bis(cyclopentadienyldicarbonyliron). Bis(dicarbonylcyclopentadienyliron). Bis(cyclopentadienyl)tetracarbonyldiiron



CAS Registry Number: 12154-95-9

Related CAS Registry Numbers(s): 12766-19-7 52020-42-5

Extra CAS Registry Numbers(s): 38117-54-3

Molecular Formula: $C_{14}H_{10}Fe_2O_4$

Molecular Weight: 353.925

Accurate Mass: 353.927788

Percentage Composition: C 47.51%; H 2.85%; Fe 31.56%; O 18.08%

General Statement: Solns. contain interconverting *cis*, *trans* and nonbridged (minor) forms which undergo rapid bridging << >> terminal CO interconversion

Source/Synthesis: Synth. from $Fe(CO)_5$ or $Fe_2(CO)_9$ + CpH

>>Variant: *cis*-form

CAS Registry Number: 33221-55-5

Molecular Formula: $C_{14}H_{10}Fe_2O_4$

Molecular Weight: 353.925

Accurate Mass: 353.927788

Percentage Composition: C 47.51%; H 2.85%; Fe 31.56%; O 18.08%

General Statement: Thermodynamically less stable form

Physical Description: Black cryst.

Melting Point: Mp 146 dec.°

>>Variant: *trans*-form

CAS Registry Number: 32757-46-3

Molecular Formula: $C_{14}H_{10}Fe_2O_4$

Molecular Weight: 353.925

Accurate Mass: 353.927788

Percentage Composition: C 47.51%; H 2.85%; Fe 31.56%; O 18.08%

Use/Importance: Catalyst for C-C bond-forming reactions; radical initiator, precursor to alkyl- and acyliron complexes

Physical Description: Dark red-purple cryst.

Melting Point: Mp 194 dec.°

Solubility: V. sol. $CHCl_3$, Py, alcohols; sol. CCl_4 , CS_2 ; sl. sol. pentane; insol. H_2O

Hazard & Toxicity: Reputed to be v. toxic by inhalation and ingestion

>>Derivative: Bis-AlEt₃ complex

Synonym(s): Di- μ_3 -carbonyldicarbonylbis(η^5 -2,4-cyclopentadien-1-yl)bis(triethylaluminium)diiron, 9Cl

CAS Registry Number: 39040-51-2

Molecular Formula: $C_{26}H_{40}Al_2Fe_2O_4$

Molecular Weight: 582.257

Accurate Mass: 582.125616

Percentage Composition: C 53.63%; H 6.92%; Al 9.27%; Fe 19.18%; O 10.99%

Source/Synthesis: Synth. from $[FeCp(CO)_2]_2$ + Al_2Et_6

Physical Description: Air- and moisture-sensitive red cryst.

Other Data: AlEt₃ binds to bridging carbonyl groups. Partly dissociates to parent compound + AlEt₃ in C_6H_6

>>Derivative: Bis[tris(η^5 -methylcyclopentadienyl)samarium] complex

Synonym(s): Bis[μ_3 -(carbonyl-C:C:O)][dicarbonylbis(η^5 -2,4-cyclopentadienyl-1-yl)diiron]hexakis[(1,2,3,4,5- η)-1-methyl-2,4-cyclopentadien-1-yl]disamarium, 9Cl

CAS Registry Number: 39470-38-7

Molecular Formula: $C_{50}H_{52}Fe_2O_4Sm_2$

Molecular Weight: 1129.372

Accurate Mass: 1132.095896

Percentage Composition: C 53.18%; H 4.64%; Fe 9.89%; O 5.67%; Sm 26.63%

Source/Synthesis: Synth. from $[FeCp(CO)_2]_2$ + $Sm(C_5H_4Me)_3$

Physical Description: Air- and moisture-sensitive red solid; unstable >120°/0.1 mmHg

Solubility: Sol. CH_2Cl_2 , THF

References: