

PERFLUORO ORGANIC COMPOUNDS OF SILVER

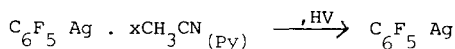
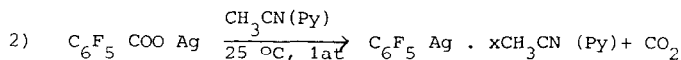
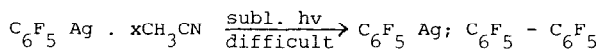
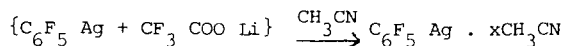
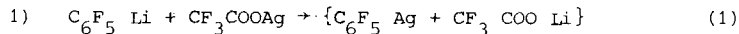
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Non fluorinated organo silver compounds are thermally unstable.

In contrast fluorinated organo silver compounds are thermally more stable, the stability increasing with perfluoro aromatic counterparts rather than perfluoro aliphatic systems.

The synthesis of pentafluorophenyl silver can be done by several methods:



Similar results are obtained using complexes of silver pentafluorobenzoate with  $\alpha$ ,  $\alpha'$ -Dipyridyl or o-phenanthroline as starting compounds.

The  $C_6F_5$ -Ag-compounds react as  $C_6F_5$ -transferring systems. Their structure seems to consist of clusters, the highest mass number found corresponding to  $[Ag_4(C_6F_5)_3]^+$ . On thermal degradation  $[Ag_2 C_6F_5]_n$  seems to be formed.

Increased thermal stability is shown by Paratetrafluorophenylene di-silver, which is formed by decarboxylation of silver tetrafluoro terephthalate. Although insoluble in organic solvents it can be reacted in suspension yielding 1,4 derivatives of tetrafluorobenzene. All complexes of silver tetrafluoro phthalate are degraded during decarboxylation with the formation of Para-tetrafluorophenylene disilver.