

BROMINATION OF SELECTED TRIORGANOTIN(IV) AND TETRAORGANOTIN (IV) COMPOUNDS

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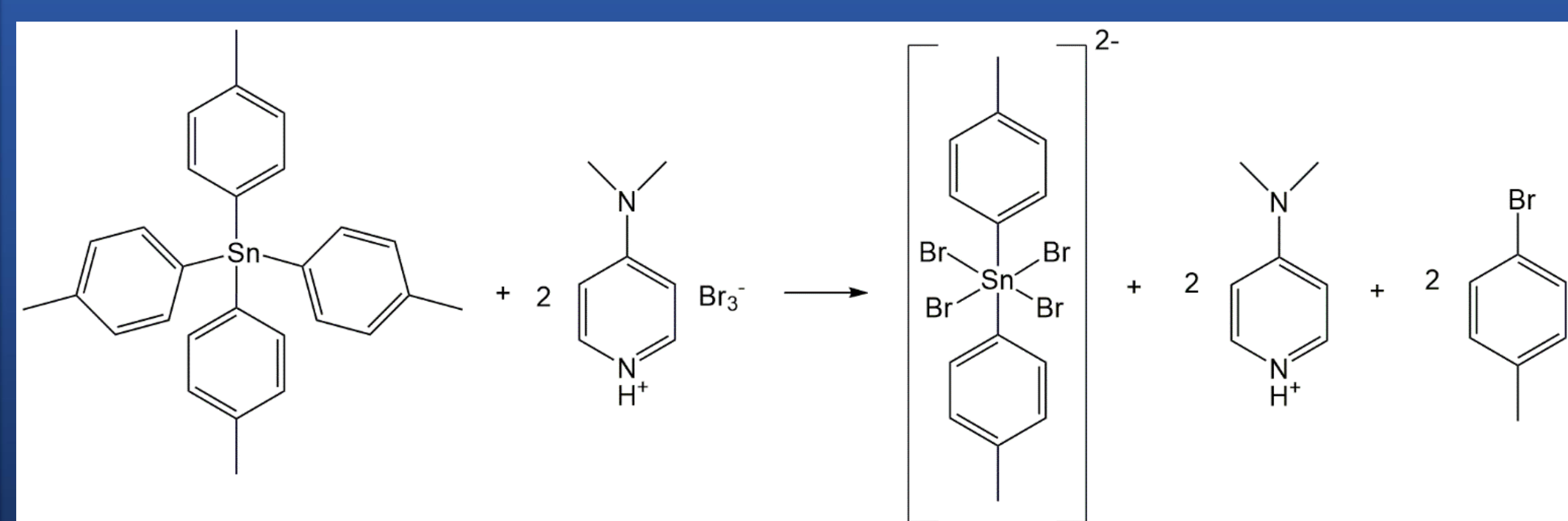
INTRODUCTION

Bromination refers to the reaction which involves the addition of one or more bromines to a compound. It is more selective than chlorination as the reaction is less exothermic. Brominating agents eg. bromine, *N*-bromosuccinimide (NBS), 1,3-dibromo-5,5-dimethylhydantoin (DBMDH), 4-dimethylaminopyridine hydrobromide perbromide, pyridinium tribromide and trimethylphenylammonium bromide have been used in various bromination reactions. Bromine is not favourable as it is a strong brominating agent and the obtained products are not selective.

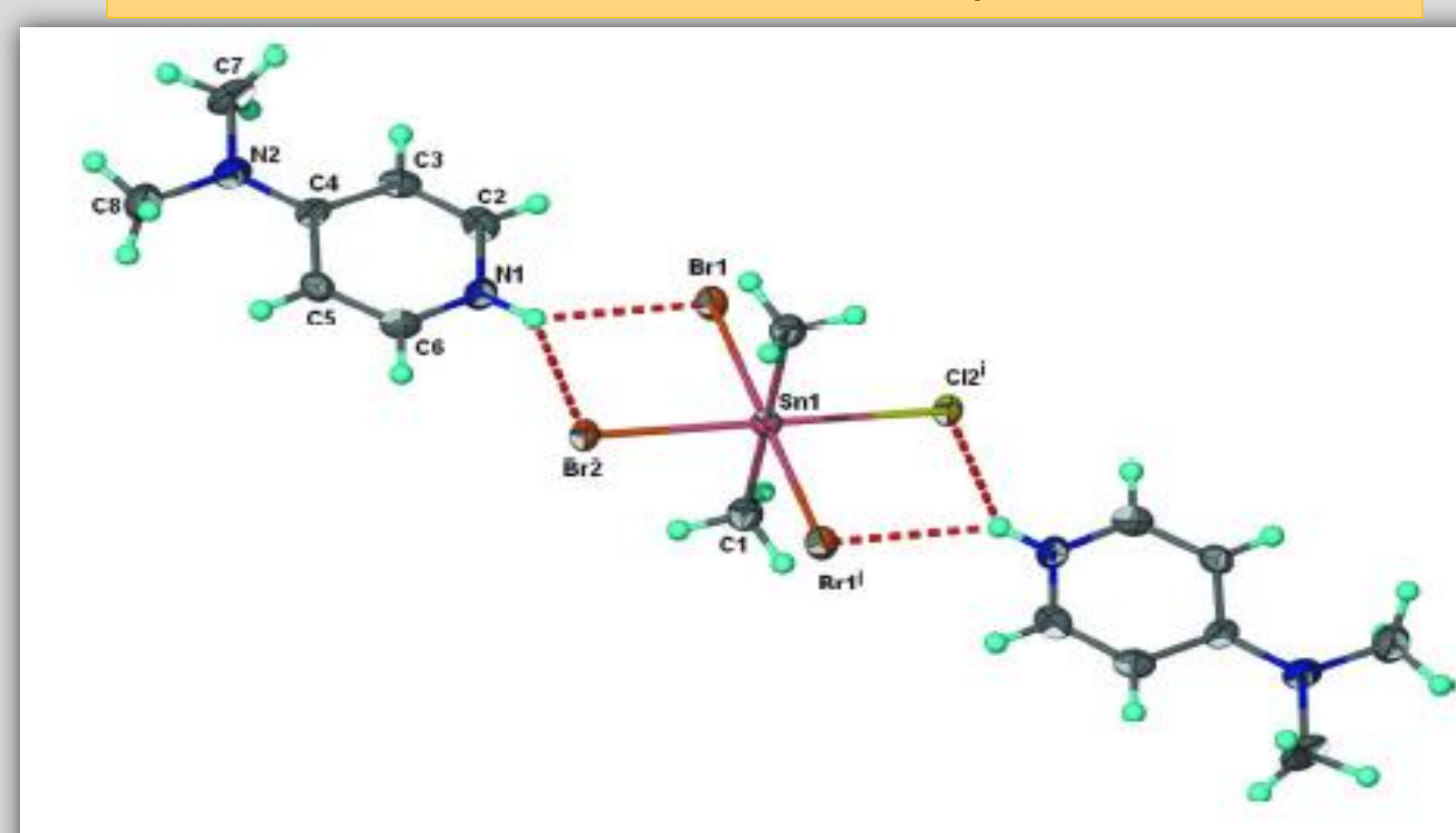
N-Bromosuccinimide (NBS) is an oxidizing agent that is often used as a source of bromine in various radical reactions and electrophilic additions. 1,3-Dibromo-5,5-dimethylhydantoin (DBMDH) is a convenient alternative to NBS for the bromination of electron-rich arenes. Mild brominating agents eg. trimethylphenylammonium bromide and 4-dimethylaminopyridine hydrobromide perbromide are used in the bromination of various organic compounds. Presently, the mild brominating agents will be used in the reaction with organotin(IV).

RESULTS AND DISCUSSIONS

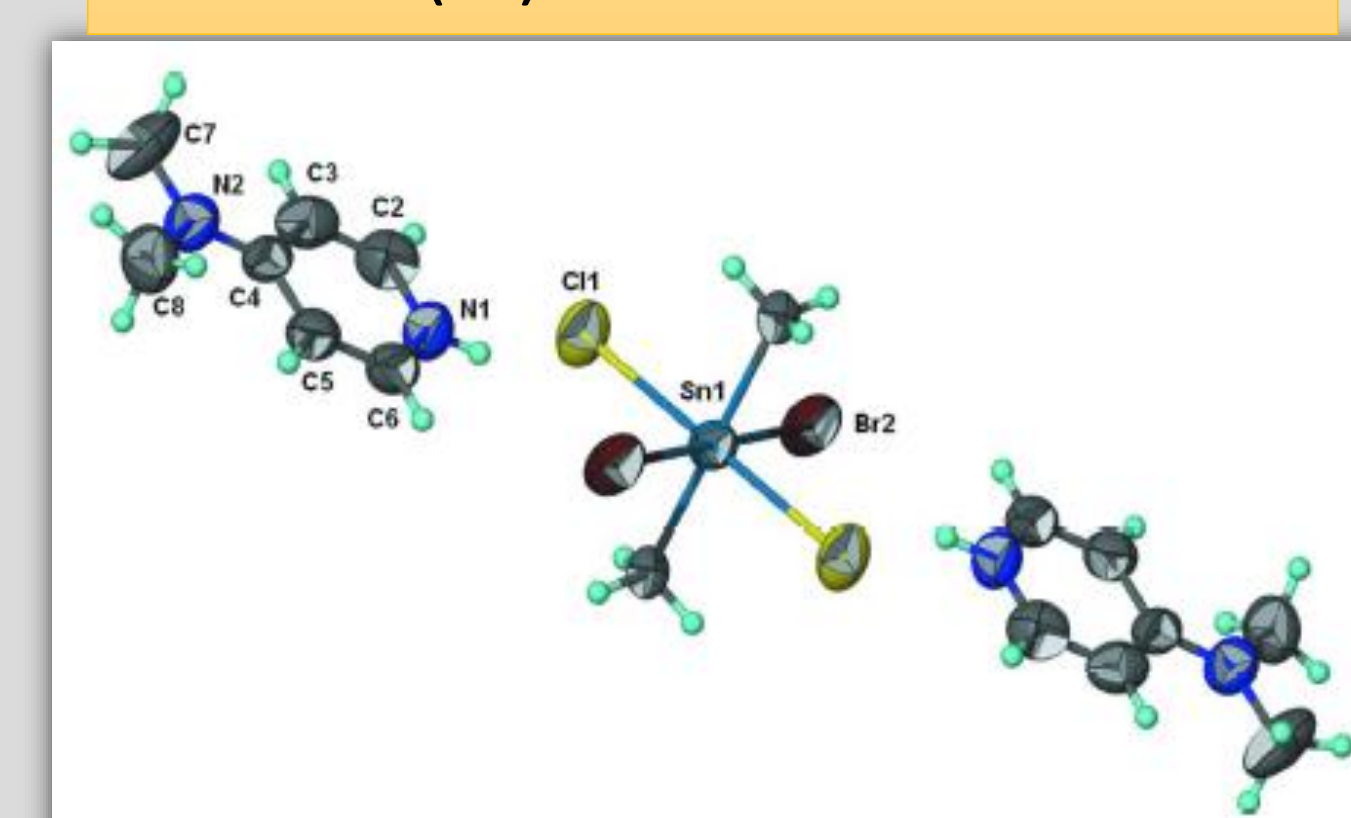
Example of reaction:



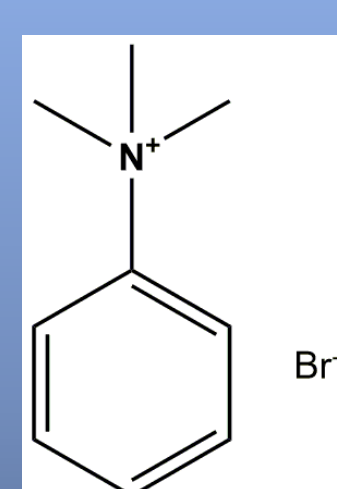
Bis[4-(dimethylamino)pyridinium]
tribromidochloridodimethylstannate(IV)



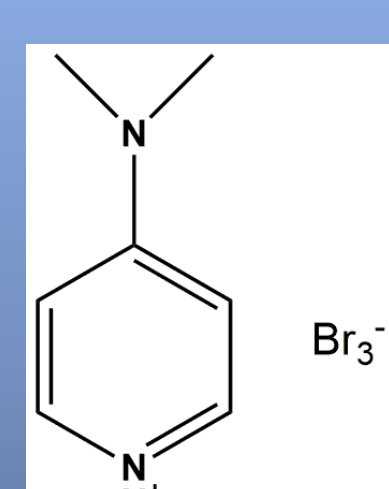
Bis[4-(dimethylamino)pyridinium]-
dibromidodichloridodimethyl-
stannate(IV)



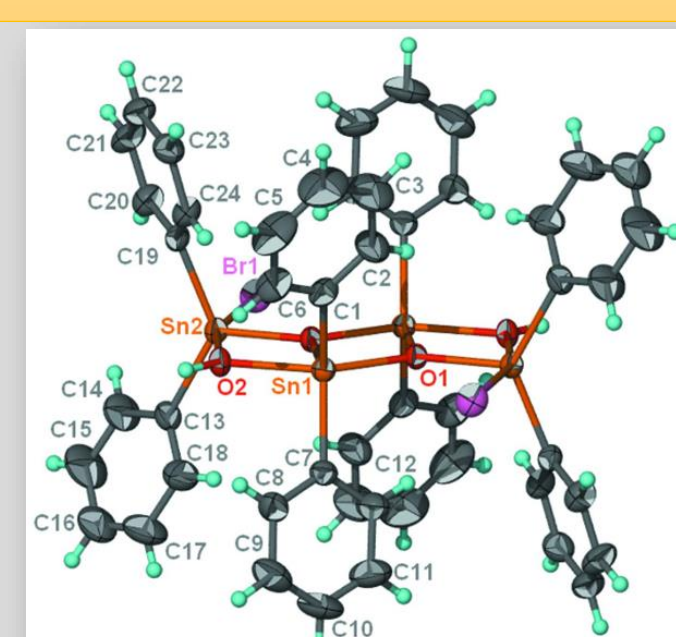
Trimethylphenyl-
ammonium bromide



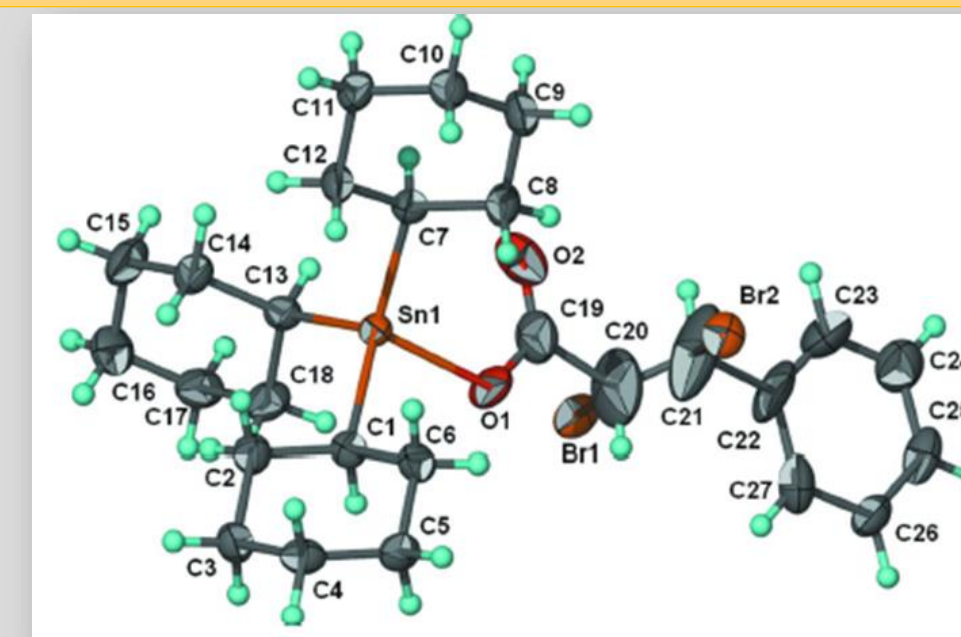
4-Dimethylaminopyridine
hydrobromide tribromide



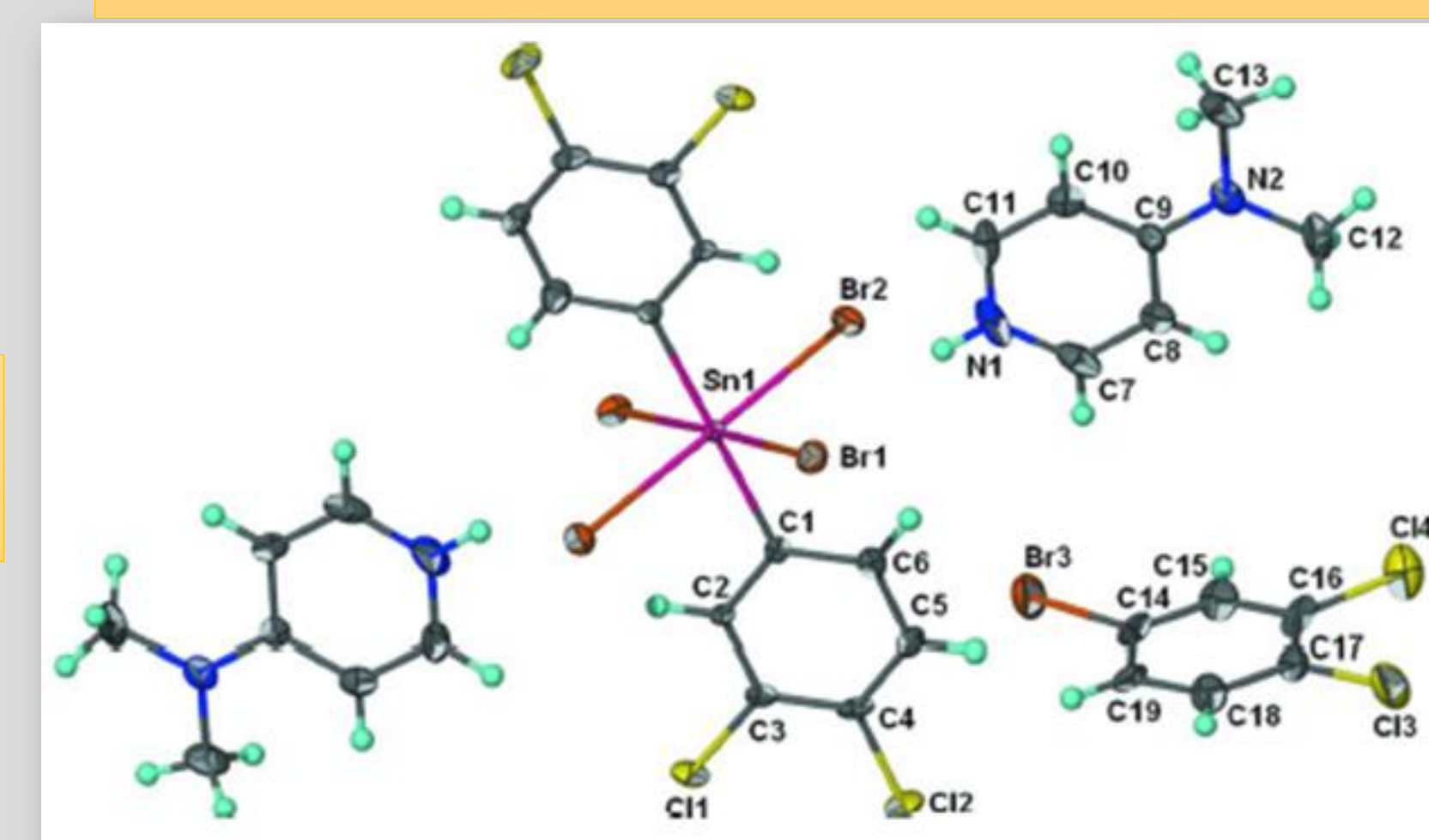
Dibromidodi- μ -hydroxido-di-
 μ 3-oxidoctaphenyltetra-
tin(IV)



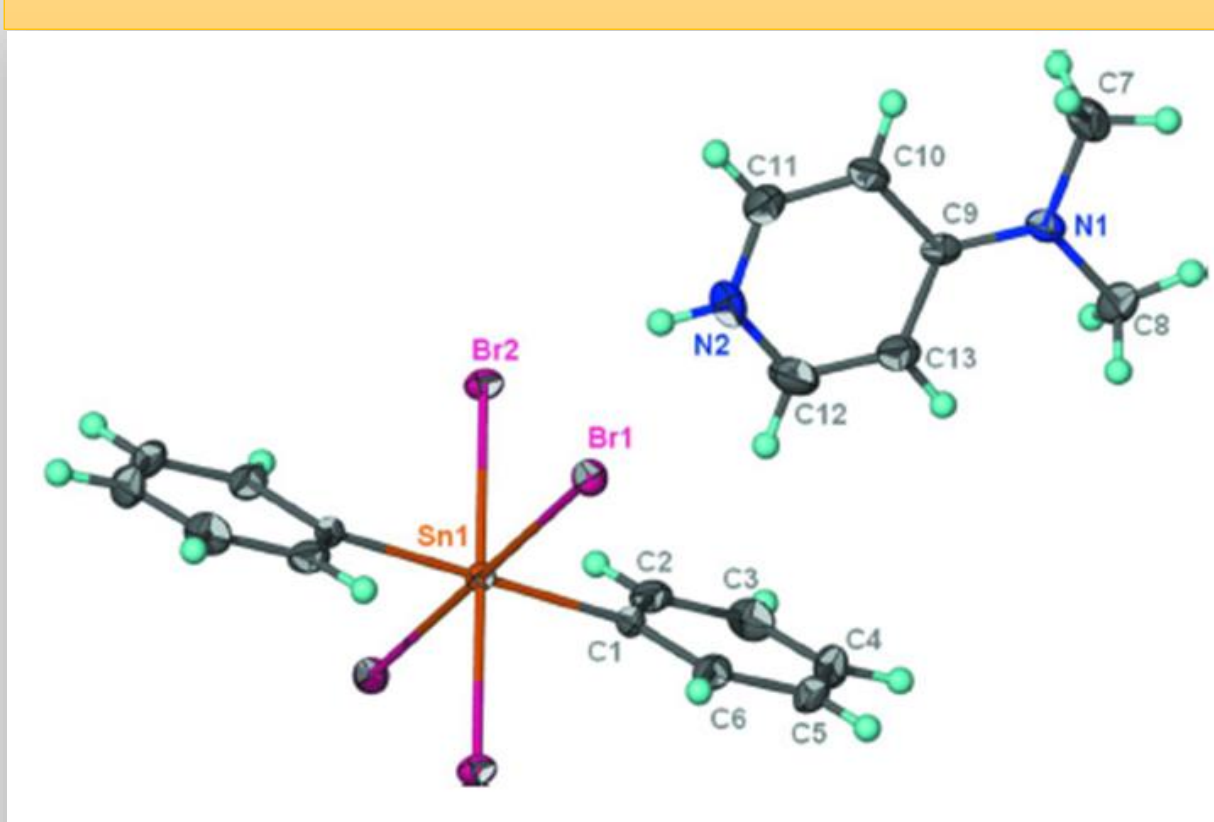
Tricyclohexyl(2,3-dibromo-3-
phenylpropionato- κ O)tin(IV)



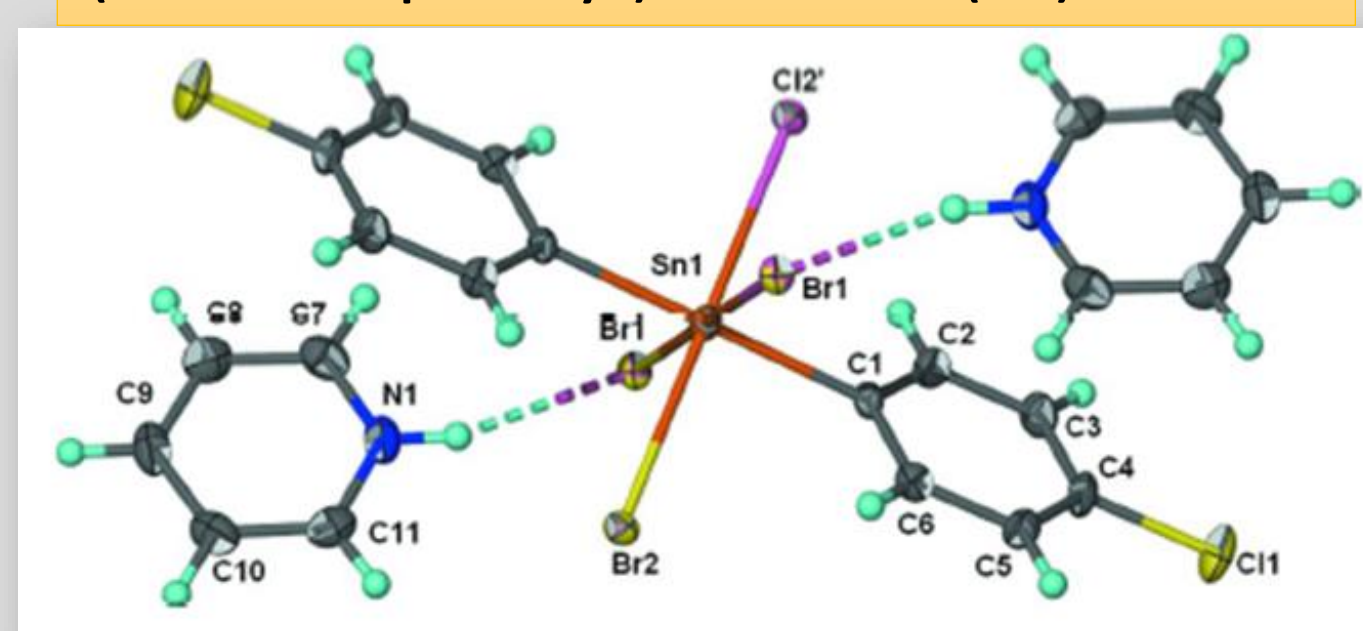
Bis[4-(dimethylamino)pyridinium]
tetrabromidobis(3,4-dichlorophenyl)-
stannate(IV)-1-bromo-3,4-dichlorobenzene
(1/1)



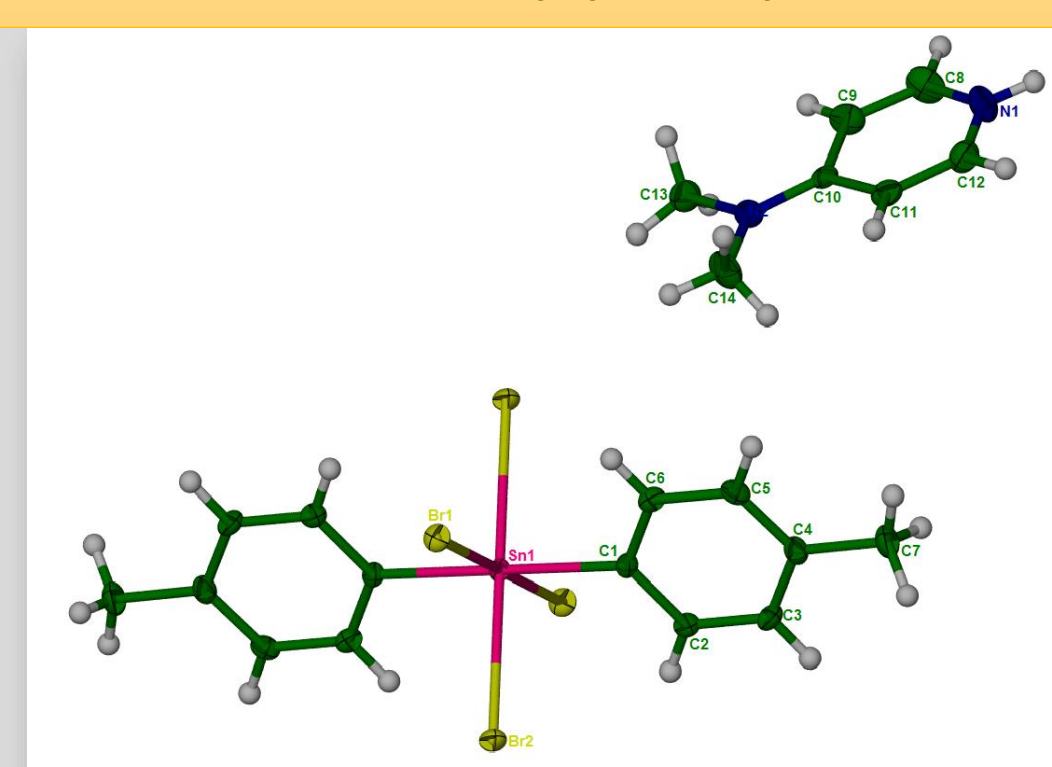
Bis[4-(dimethylamino)pyridinium]
tetrabromidodiphenylstannate(IV)



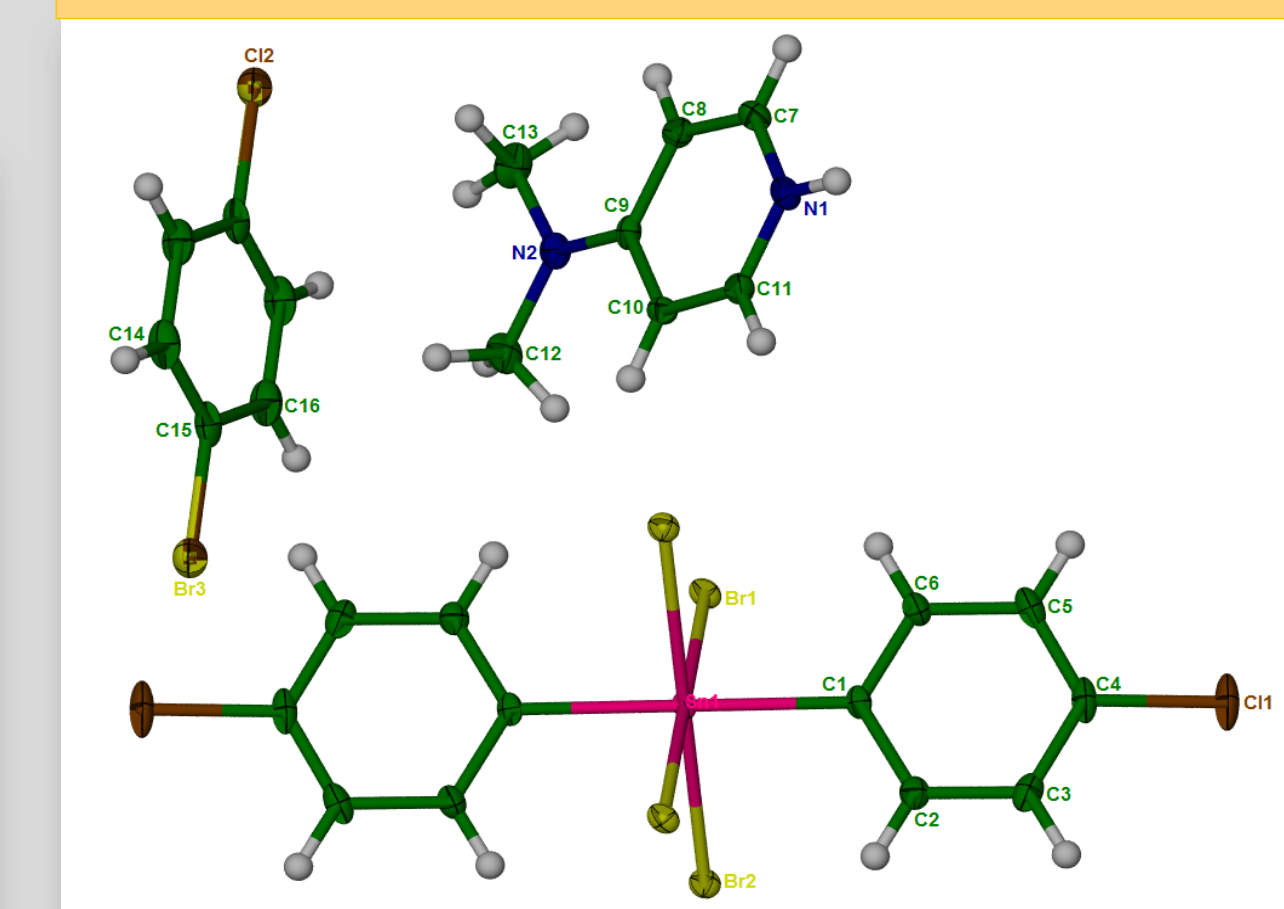
Dipyridinium tribromidochloridobis-
(4-chlorophenyl)stannate(IV)



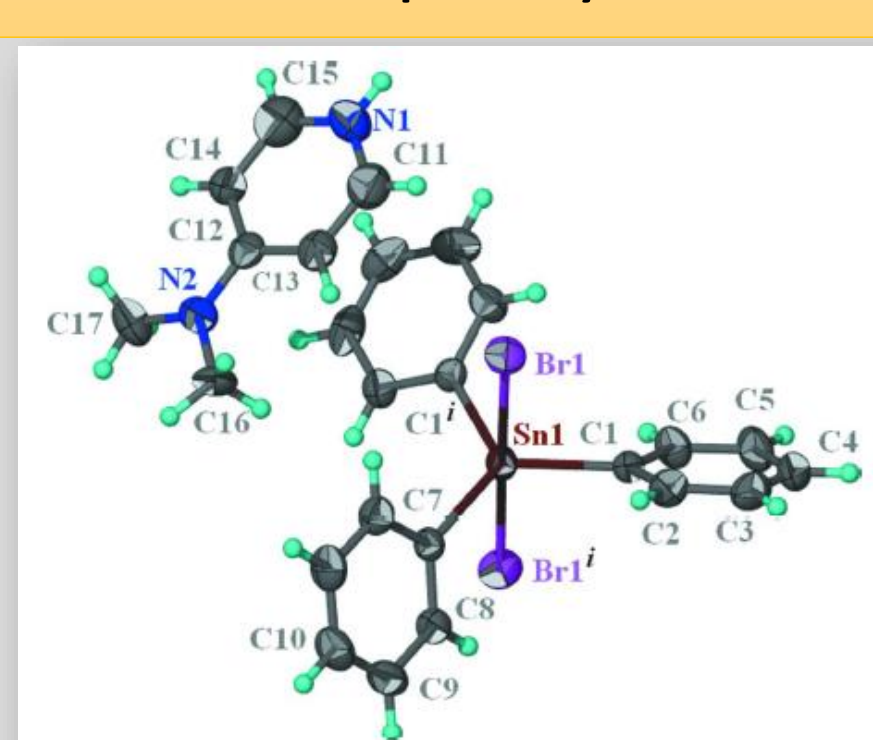
Bis[4-(dimethylamino)pyridinium]tetra-
bromidobis(4-methylphenyl)stannate(IV)



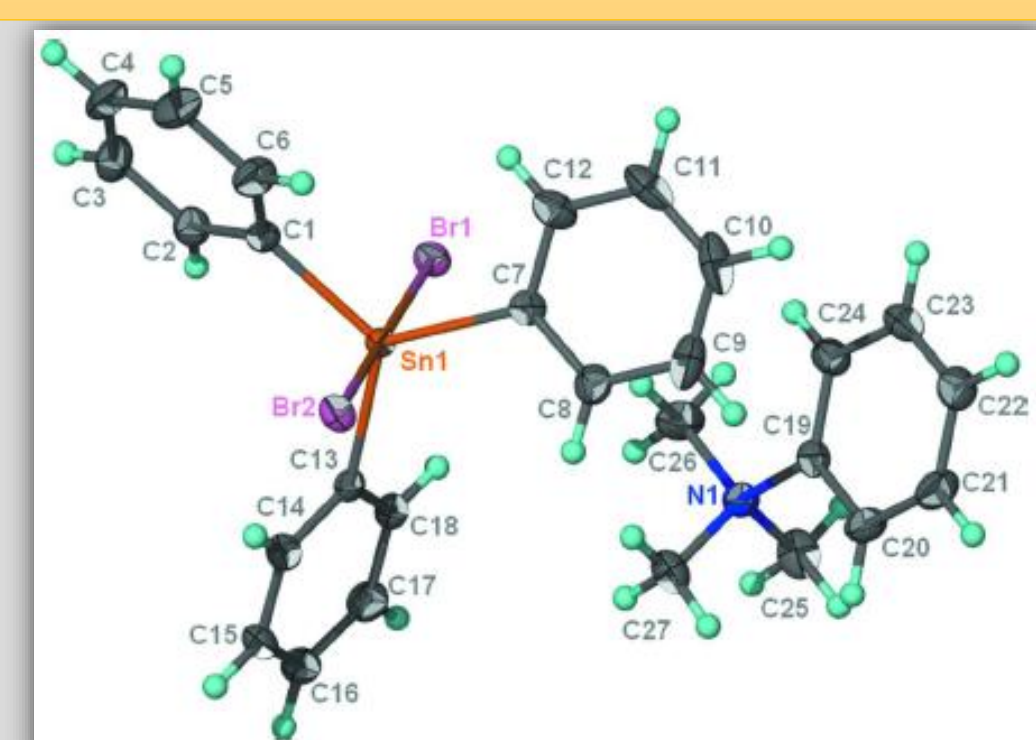
Bis[4-(dimethylamino)pyridinium]
tetrabromidobis(4-chlorophenyl)-
stannate(IV)-4-bromochloro-
benzene (1/1)



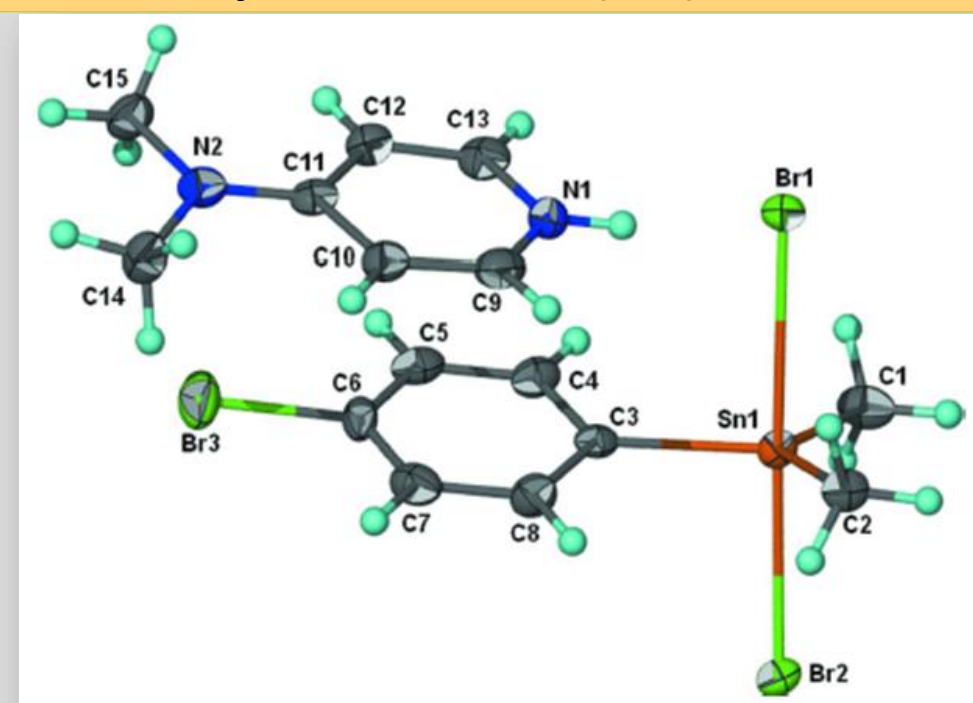
4-(Dimethylamino)pyridinium
dibromidotriphenylstannate(IV)



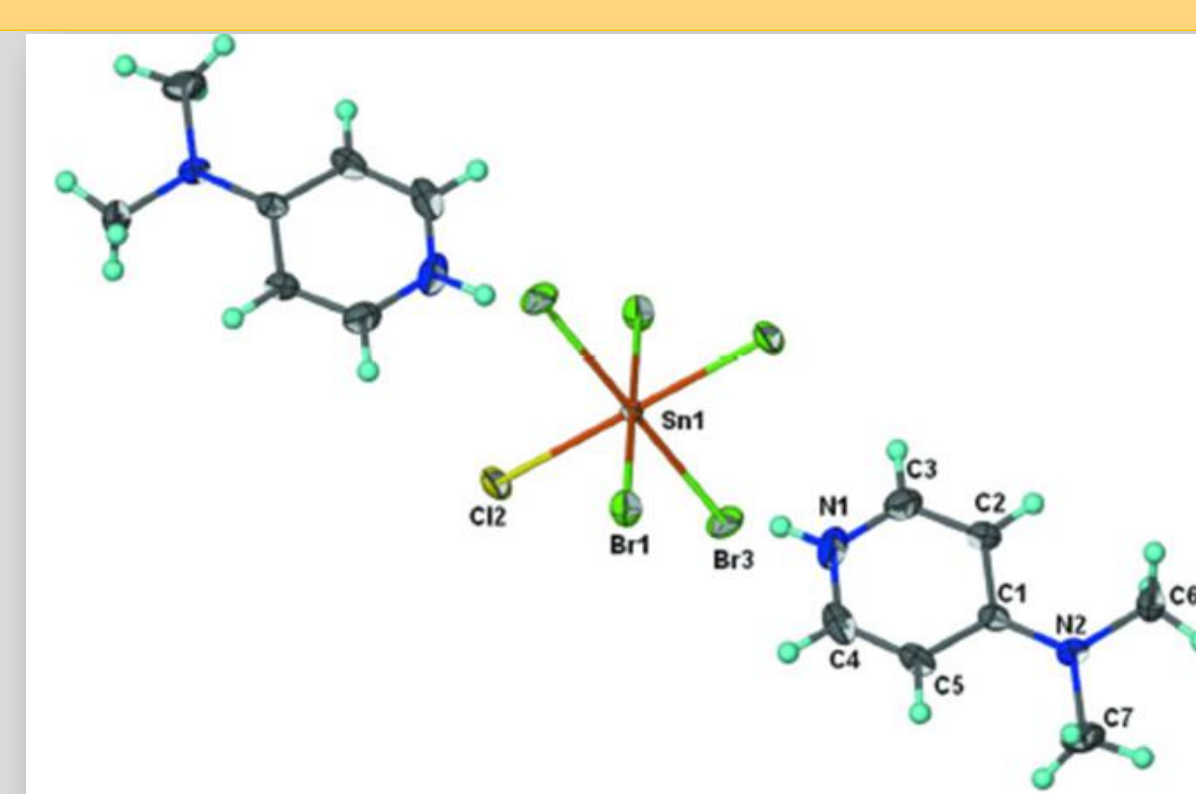
Trimethylphenylammonium
dibromidotriphenylstannate(IV)



4-(Dimethylamino)pyridinium
dibromide(4-bromophenyl)-
dimethylstannate(IV)



Bis[4-(dimethylamino)pyridinium]
pentabromidochloridostannate(IV)



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