The preparation and x-ray structure of chlorobis(N-methyl-N-phenylhydra-zido)bis(triphenylphosphine)molybdenum trifluoromethanesulfonate hemihydrate: [Mo(NNMePh)2Cl(PPh3)2]+CF 3SO3-·1/2H2O

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[Mo(NNMePh)2Cl(PPh3)2]+CF 3SO3-·1/2H2O, [1]+CF3SO3-·1/2H 2O, has been synthesized by reaction of silver triflate, AgCF3SO3, with [Mo(NNMePh)2Cl2(PPh3)2] in CH2Cl2/CH3CN and subsequent isolation and recrystallization from a CH2Cl2 solution layered with n-hexane. This complex has been characterized by 1H and 31P NMR, IR spectroscopy and by single crystal X-ray diffraction analysis. The geometry of the cationic complex, [1]+, exhibits a distorted trigonal bipyramidal with the two triphenylphosphine ligands occupying the apical positions and the equatorial plane defined by a chloro and the ?-nitrogen atoms of the two nearly linear N-methyl-N-phenylhydrazido ligands, NNMePh.