

TITLE OF INVENTION: COMPOUND FOR FORMING METAL-  
CONTAINING FILM, COMPOSITION FOR FORMING METAL-  
CONTAINING FILM, AND PATTERNING PROCESS

ABSTRACT

A compound for forming a metal-containing film, containing: at least one metal atom selected from the group Ti, Zr, and Hf; and a ligand coordinated to the metal atom via an oxygen atom, where the ligand has a cyclic structure (t) selected from a ring having 4 or more carbon atoms and containing 1 or more oxygen atoms, a ring having 3 or more carbon atoms and containing 2 or more oxygen atoms, and a ring having 3 or more carbon atoms and containing 1 or more oxygen atoms and 1 or more heteroatoms other than oxygen atoms. The compound gives a resist middle layer film that has an excellent pattern profile, has high adhesiveness to a resist upper layer film, and suppresses fine-pattern collapse in a fine patterning process of a semiconductor device manufacturing process; a composition containing the compound; and a patterning process using the composition.

[FIG. 1(A)-1(I)]