WHAT IS CLAIMED IS:

1. A method for forming a metal oxide, comprising:

a first step of supplying a first compound to a chamber and then supplying an oxidizer to the chamber; and

a second step of supplying a second compound to the chamber and then supplying the oxidizer to the chamber,

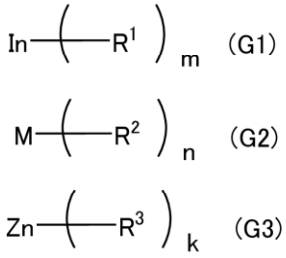
wherein the first compound is represented by any one of General Formulae (G1) to (G3),

wherein the second compound is represented by any one of General Formulae (G1) to (G3),

wherein each of the first compound and the second compound is an organic precursor,

wherein the first compound and the second compound are different from each other,

wherein in each of the first and second steps, a substrate in the chamber is heated to higher than 300 °C and lower than or equal to 500 °C,



wherein M represents Ga, Al, or Sn,

wherein each of R^1 to R^3 independently represents hydrogen, fluorine, chlorine, bromine, iodine, oxygen, phosphorus, sulfur, a hydroxy group, a thiol group, a boryl group, a substituted or unsubstituted phosphanyl group, a substituted or unsubstituted alkyl group comprising 1 to 8 carbon atoms, a substituted or unsubstituted alkenyl group comprising 2 to 8 carbon atoms, a substituted or unsubstituted alkynyl group comprising 2 to 8 carbon atoms, a substituted or unsubstituted cycloalkyl group comprising 3 to 10 carbon atoms, a substituted or unsubstituted cycloalkenyl group comprising 3 to 10 carbon atoms, a substituted or unsubstituted cycloalkynyl group comprising 3 to 10

carbon atoms, a substituted or unsubstituted alkoxy group comprising 1 to 6 carbon atoms, a substituted or unsubstituted alkylsulfanyl group comprising 1 to 6 carbon atoms, a substituted or unsubstituted 1,3-propanedialdehyde group, a substituted or unsubstituted aryl group comprising 6 to 30 carbon atoms, or a substituted or unsubstituted heteroaryl group comprising 2 to 30 carbon atoms in which a ring is formed by a plurality of elements selected from carbon, sulfur, oxygen, boron, and phosphorus,

wherein *m* represents an integer of 1 to 3,

wherein *n* represents an integer of 1 to 3 when M is Ga or Al, and represents an integer of 1 to 4 when M is Sn,

wherein *k* represents 1 or 2,

wherein when *m* is 1, R^1 represents an organic substance,

wherein when *m* is 2 or more, a plurality of R^1s represent the same substance or different substances,

wherein when *m* is 2 or more, at least one of the plurality of R^1s represents an organic substance,

wherein when *n* is 1, R^2 represents an organic substance,

wherein when *n* is 2 or more, a plurality of R^2s represent the same substance or different substances,

wherein when *n* is 2 or more, at least one of the plurality of R^2s represents an organic substance,

wherein when *k* is 1, R^3 represents an organic substance,

wherein when *k* is 2, a plurality of R^3s represent the same substance or different substances, and

wherein when *k* is 2, one of the plurality of R^3s represents an organic substance.

2. The method for forming a metal oxide, according to claim 1,

wherein when *m* is 2 or more, the plurality of R^1s represent the same substance or different substances which are bonded to each other to form a ring,

wherein when *n* is 2 or more, the plurality of R^2s represent the same substance or different substances which are bonded to each other to form a ring,

wherein when k is 2, the plurality of R^3s represent the same substance or different substances which are bonded to each other to form a ring, and

wherein a bond between In and R^1, a bond between M and R^2, a bond between Zn and R^3, a bond between the plurality of R^1s, a bond between the plurality of R^2s, and a bond between the plurality of R^3s are each any of a single bond, a double bond, and a triple bond.

3. The method for forming a metal oxide, according to claim 1,

wherein in General Formulae (G1) to (G3), at least one of m, n, and k is 2 or more,

wherein when m is 2, the plurality of R^1s are different from each other,

wherein when m is 3, at least one of the plurality of R^1s is different from the other R^1s of the plurality of R^1s,

wherein when n is 2, the plurality of R^2s are different from each other,

wherein when n is 3 or more, at least one of the plurality of R^2s is different from the other R^2s of the plurality of R^2s,

wherein when k is 2, the plurality of R^3s are different from each other,

wherein the first compound and the second compound are each a liquid at 25 °C and 1 atm,

wherein performing each of the first and second steps one or more times and performing impurity removal treatment in an atmosphere containing oxygen are regarded as a first cycle, and

wherein the first cycle is repeated a plurality of times.

4. The method for forming a metal oxide, according to claim 1,

wherein the first step and the second step are performed one time or a plurality of times, and

wherein an impurity removal treatment in an atmosphere containing oxygen is performed after the performance of the first step and the second step for one time or the plurality of times.

5. The method for forming a metal oxide, according to claim 1, wherein in each of the first and second steps, the substrate in the chamber is heated to higher than or equal to 400 °C and lower than or equal to 450 °C.