CLAIMS

1. A method for producing an aromatic nitrile compound, comprising:

a dehydration reaction of dehydrating an aromatic amide compound;

wherein the dehydration reaction uses diphenylether,

wherein the dehydration reaction is performed in a state where the diphenylether is boiled and;

wherein the diphenylether has a boiling point that is higher than the boiling point of the aromatic nitrile compound and the boiling point of water and lower than the boiling point of the aromatic amide compound.

2. The method for producing an aromatic nitrile compound according to claim 1, wherein the dehydration reaction is performed at a reduced pressure.

3. The method for producing an aromatic nitrile compound according to any one of claims 1 and 2, wherein a reaction solution of the dehydration reaction has a temperature that is 170°C or higher and lower than 230°C.

4. The method for producing an aromatic nitrile compound according to any one of claims 1 through 3, wherein the aromatic amide compound contains pyridine carboamide or pyrazine amide, and the aromatic nitrile compound contains cyanopyridine or cyanopyrazine.

5. The method for producing an aromatic nitrile compound according to any one of claims 1 through 4, wherein the dehydration reaction uses a catalyst containing cesium.

6. A method for producing a carbonate ester, comprising:

a first reaction step including a carbonate ester generation reaction of reacting an alcohol and carbon dioxide in the presence of an aromatic nitrile compound to generate a

carbonate ester and water, and a hydration reaction of hydrating the generated water to the aromatic nitrile compound to generate an aromatic amide compound; and

a second reaction step of, after the aromatic amide compound is separated from a reaction system of the first reaction step, regenerating the aromatic amide compound into the aromatic nitrile compound by a dehydration reaction of dehydrating the aromatic amide compound in the presence of diphenylether;

wherein at least a part of the aromatic nitrile compound regenerated in the second reaction step is used in the first reaction step,

wherein the dehydration reaction is performed in a state where the diphenylether is boiled and;

wherein the diphenylether has a boiling point that is higher than the boiling point of the aromatic nitrile compound and the boiling point of water and lower than the boiling point of the aromatic amide compound.

7. The method for producing a carbonate ester according to claim 6, wherein the aromatic amide compound contains pyridine carboamide or pyrazine amide, and the aromatic nitrile compound contains cyanopyridine or cyanopyrazine.

8. The method for producing a carbonate ester according to any one of claims 6 and 7 , wherein the dehydration reaction uses a catalyst containing cesium.

9. The method for producing a carbonate ester according to any one of claims 6 through 8, wherein the carbonate ester generation reaction uses a catalyst containing CeO_2 .

10. The method for producing a carbonate ester according to any one of claims 6 through 9, wherein the alcohol contains an alcohol having a carbon number of 1 to 6.

11. The method for producing a carbonate ester according to any one of claims 6 through 10, wherein the first reaction step uses a solvent having a boiling point higher than the boiling point of the aromatic amide compound to be generated.

12. The method for producing a carbonate ester according to claim 11, wherein the solvent contains at least one of dialkylbenzene, alkylnaphthalene, and diphenylbenzene.

13. The method for producing a carbonate ester according to claim 6, wherein the dehydration reaction of dehydrating the aromatic amide compound is performed at a temperature of a reaction solution of 170°C or higher and lower than 230°C.