C L A I M S

1. Process for preparing a diaryl carbonate from a dialkyl carbonate and an aryl alcohol comprising:
(a) introducing dialkyl carbonate and aryl alcohol into a first reactive distillation column;
(b) recovering from the first reactive distillation column a top stream comprising dialkyl carbonate and alkyl alcohol and a bottom stream comprising alkyl aryl carbonate, aryl alcohol and dialkyl carbonate;
(c) introducing the bottom stream from the first reactive distillation column into a second reactive distillation column;
(d) recovering from the second reactive distillation column a top stream comprising dialkyl carbonate and a bottom stream comprising alkyl aryl carbonate, diaryl carbonate and aryl alcohol;
(e) introducing the bottom stream from the second reactive distillation column into a third reactive distillation column; and
(f) recovering from the third reactive distillation column a top stream comprising aryl alcohol and a bottom stream comprising diaryl carbonate,
wherein the top stream from the third reactive distillation column is recycled to the second reactive distillation column.

2. Process according to claim 1, wherein the pressure at the top of the first reactive distillation column is higher than that of the second reactive distillation column which in turn is higher than that of the third reactive distillation column

3. Process according to any one of the preceding claims, wherein the pressure at the top of the first reactive

distillation column is 2 to 7 bar; the pressure at the top of the second reactive distillation column is 0.1 to 3 bar; and the pressure at the top of the third reactive distillation column is 10 to 400 mbar.

4. Process according to any one of the preceding claims, wherein the top stream from the first reactive distillation column is introduced into a first distillation column from which a top stream comprising alkyl alcohol and a bottom stream comprising dialkyl carbonate are recovered, and the bottom stream from the first distillation column is recycled to the first reactive distillation column.

5. Process according to claim 4, wherein the top stream comprising dialkyl carbonate from the second reactive distillation column additionally comprises aryl alcohol and is introduced into a second distillation column from which a top stream comprising dialkyl carbonate and a bottom stream comprising aryl alcohol are recovered, and the top stream from the second distillation column is recycled to the first distillation column.

6. Process according to claim 5, wherein the bottom stream from the first reactive distillation column, the top stream from the second reactive distillation column and the bottom stream comprising aryl alcohol from the second distillation column additionally comprise alkyl aryl ether, the bottom stream comprising aryl alcohol and alkyl aryl ether from the second distillation column is introduced into a third distillation column from which a top stream comprising alkyl aryl ether and a bottom stream comprising aryl alcohol are recovered, and the bottom stream from the third distillation column is recycled to the first reactive distillation column.

7. Process according to any one of the preceding claims, wherein the dialkyl carbonate is a di(C_1-C_5)alkyl carbonate, such as dimethyl carbonate or diethyl carbonate.

8. Process according to any one of the preceding claims, wherein the aryl alcohol is phenol.

9. Process for making a polycarbonate, comprising reacting a dihydroxy aromatic compound with a diaryl carbonate prepared in accordance with the process of any one of claims 1-8.

10. Process for making a polycarbonate, comprising preparing a diaryl carbonate in accordance with the process of any one of claims 1-8, and reacting a dihydroxy aromatic compound with the diaryl carbonate thus obtained.

11. Process according to claim 9 or 10, wherein the dihydroxy aromatic compound is bisphenol A.

What is claimed is:

1. A process for preparing a diaryl carbonate from a dialkyl carbonate and an aryl alcohol comprising: (a) introducing dialkyl carbonate and aryl alcohol into a first reactive distillation column; (b) recovering from the first reactive distillation column a top stream comprising dialkyl carbonate and alkyl alcohol and a bottom stream comprising alkyl aryl carbonate, aryl alcohol and dialkyl carbonate; (c) introducing the bottom stream from the first reactive distillation column into a second reactive distillation column; (d) recovering from the second reactive distillation column a top stream comprising dialkyl carbonate and a bottom stream comprising alkyl aryl carbonate, diaryl carbonate and aryl alcohol; (e) introducing the bottom stream from the second reactive distillation column into a third reactive distillation column; and (f) recovering from the third reactive distillation column a top stream comprising aryl alcohol and a bottom stream comprising diaryl carbonate, wherein the top stream from the third reactive distillation column is recycled to the second reactive distillation column.

2. A process according to claim 1, wherein the pressure at the top of the first reactive distillation column is higher than that of the second reactive distillation column which in turn is higher than that of the third reactive distillation column.

3. A process according to claim 1, wherein the pressure at the top of the first reactive distillation column is 2 to 7 bar; the pressure at the top of the second reactive distillation column is 0.1 to 3 bar; and the pressure at the top of the third reactive distillation column is 10 to 400 mbar.

4. A process according to claim 1, wherein the top stream from the first reactive distillation column is introduced into a first distillation column from which a top stream comprising alkyl alcohol and a bottom stream comprising dialkyl carbonate are recovered, and the bottom stream from the first distillation column is recycled to the first reactive distillation column.

5. A process according to claim 4, wherein the top stream comprising dialkyl carbonate from the second reactive distillation column additionally comprises aryl alcohol and is introduced into a second distillation column from which a top stream comprising dialkyl carbonate and a bottom stream comprising aryl alcohol are recovered, and the top stream from the second distillation column is recycled to the first distillation column.

6. A process according to claim 5, wherein the bottom stream from the first reactive distillation column, the top stream from the second reactive distillation column and the bottom stream comprising aryl alcohol from the second distillation column additionally comprise alkyl aryl ether, the bottom stream comprising aryl alcohol and alkyl aryl ether from the second distillation column is introduced into a third distillation column from which a top stream comprising alkyl aryl ether and a bottom stream comprising aryl alcohol are recovered, and the bottom stream from the third distillation column is recycled to the first reactive distillation column.

7. A process according to claim 1, wherein the dialkyl carbonate is a di(C_1-C_5)alkyl carbonate, such as dimethyl carbonate or diethyl carbonate.

8. A process according to claim 1, wherein the aryl alcohol is phenol.

9. A process for making a polycarbonate, comprising reacting a dihydroxy aromatic compound with a diaryl carbonate prepared in accordance with the process of claim 1.

10. A process for making a polycarbonate, comprising preparing a diaryl carbonate in accordance with the process of claim 1, and reacting a dihydroxy aromatic compound with the diaryl carbonate thus obtained.

11. A process according to claim 9, wherein the dihydroxy aromatic compound is bisphenol A.

12. A process according to claim 10, wherein the dihydroxy aromatic compound is bisphenol A.