CLAIMS:

1. A distillation process comprising:

(a) distilling a first higher-boiling feed stream in a first distillation column at a first pressure to separate a first C_8-aromatics stream from a first C_9-and-heavier aromatics stream;

(b) distilling a second lower-boiling feed stream in a second distillation column at a second pressure to separate a second C_8-aromatics stream from a second C_9-and-heavier aromatics stream; and

(c) passing an overhead stream from the second distillation column to one or more of a reboiler of the first distillation column and a steam generator;

wherein the first higher-boiling feed stream has a higher content of C_9-and-heavier aromatics than the second lower-boiling feed stream, and the second pressure is higher than the first pressure.

2. The process of claim 1 wherein the second pressure is at least 400 kPa higher than the first pressure, optionally the first pressure is between 100 kPa and 800 kPa.

3. The distillation process of any one of claims 1 and 2 wherein the second lower-boiling feed stream comprises less than 5 weight-% C_9-and-heavier aromatics.

4. The distillation process of any one of claims 1 to 3 wherein the first higher-boiling feed stream comprises more than 5 weight-% C_9-and-heavier aromatics.

5. The distillation process of any one of claims 1 to 4 wherein the second lower-boiling feed stream comprises part or all of a bottoms stream from a deheptanization of a C_8-aromatics isomerization product.

6. The process of any one of claims 1 to 5 wherein the overhead stream from the second distillation column exchanges heat with a bottoms stream from the first distillation column in the reboiler of the first distillation column

7. The process of claim 6 wherein the exchange of heat condenses the overhead stream.

8. A distillation apparatus comprising two distillation columns for separating C_8-aromatic components from C_9-and-heavier aromatic components comprising:

(a) a first distillation column adapted to operate at a first pressure and having a bottom portion in fluid communication with a reboiler;

(b) a second distillation column adapted to operate at a second pressure and having a top portion in fluid communication with an overhead conduit; and

(c) the overhead conduit from the second distillation column providing fluid communication to the reboiler of the first distillation column.

9. The apparatus of claim 8 wherein the overhead conduit is adapted to supply a heat source to the reboiler.

10. The apparatus of any one of claims 8 and 9 wherein the reboiler of the first distillation column has an enhanced nucleate boiling surface.

CLAIMS

The invention claimed is:

1. A distillation process comprising two or more xylene columns separating C8-aromatics streams from C9-and-heavier aromatics streams contained in at least one higher-boiling and at least one lower-boiling feed stream, comprising:
(a) distilling at least one higher-boiling feed stream in at least one first low-pressure xylene column to separate a first C8-aromatics stream from a first C9-and-heavier aromatics stream;
(b) distilling at least one lower-boiling feed stream in at least one second xylene column at an elevated pressure above the low pressure to separate a second C8-aromatics stream from a second C9-and-heavier aromatics stream, wherein the at least one higher-boiling feed stream has a higher content of C9-and-heavier aromatics than the at least one lower-boiling feed stream; and
(c) condensing an overhead stream from the at least one second xylene column by exchanging heat with one or more of a reboiler of the at least one first low-pressure xylene column and a steam generator.

2. The distillation process of claim 1 wherein the low pressure is between 100 and 800 kPa and the elevated pressure is about 400 kPa higher than the low pressure.

3. The distillation process of claim 1 wherein the reboiler of the at least one first low-pressure xylene column has an enhanced nucleate boiling surface.

4. The distillation process of claim 1 wherein the at least one lower-boiling feed stream comprises part or all of a bottoms stream from deheptanization of a C8-aromatics isomerization product.

5. The distillation process of claim 1 wherein condensing the overhead stream from the at least one second xylene column includes generating steam.