CLAIMS

1. A process to convert crude oil into petrochemical products comprising crude oil distillation, hydrocracking and steam cracking, which process comprises:
   (a) subjecting the crude oil to crude oil distillation to produce gases fraction, naphtha, kerosene, gasoil and resid;
   (b) subjecting resid to resid upgrading to produce LPG, light-distillate and middle-distillate wherein the resid upgrading is conducted in a resid upgrading unit selected from the group consisting of a delayed coker, a fluid coker, a resid FCC, a Flexicoker, a visbreaker, a resid hydrocracker and a catalytic hydrovisbreaker;
   (c) subjecting at least a portion of one or more of the group consisting of middle-distillate produced by resid upgrading, kerosene and gasoil to middle-distillate hydrocracking to produce LPG, light-distillate and hydrowax; and
   (d) subjecting at least a portion of one or more of the group consisting of light-distillate produced by resid upgrading, light-distillate produced by middle-distillate hydrocracking and hydrowax to steam cracking.

2. The process according to claim 1, wherein the resid upgrading is resid hydrocracking in the resid hydrocracker.

3. The process according to claim 1 or 2, wherein at least a portion of one or more selected from the group consisting of the gases fraction, LPG produced by resid upgrading and LPG produced by middle-distillate hydrocracking is subjected to steam cracking.

4. The process according to any one of claims 1-3, wherein at least a portion of the naphtha is subjected to steam cracking.

5. The process according to any one of claims 1-4, wherein the middle-distillate hydrocracking further produces a heavy-distillate, wherein at least a portion of said heavy-distillate produced by middle-distillate hydrocracking is subjected to resid upgrading.

6. The process according to any one of claims 1-5, wherein the steam cracking produces a middle-distillate, wherein at least a portion of said middle-distillate produced by steam cracking is subjected to middle-distillate hydrocracking.

7. The process according to any one of claims 1-6, wherein the steam cracking produces a heavy-distillate, wherein at least a portion of said heavy-distillate produced by steam cracking is subjected to resid upgrading.

8. The process according to any one of claims 1-7, wherein the resid upgrading is conducted in a resid upgrading unit selected from the group consisting of a fluid coker, a resid FCC, a Flexicoker, a visbreaker, a resid hydrocracker and a catalytic hydrovisbreaker; and wherein at least 20 wt-% of the total feed to the resid upgrading is converted to LPG, light-distillate and hydrowax that is subjected to steam cracking.

9. Process installation to convert crude oil into petrochemical products comprising
a crude distillation unit (1) comprising an inlet for crude oil (10), an outlet for gases fraction (21), an outlet for naphtha (31), an outlet for kerosene and/or gasoil (41) and an outlet for resid (51);
a resid upgrading unit (3) comprising an inlet and an outlet for LPG (23), an outlet for light-distillate (33) and an outlet for middle-distillate (43), wherein the resid upgrading unit is selected from the group consisting of a delayed coker, a fluid coker, a resid FCC, a Flexicoker, a visbreaker, a resid hydrocracker and a catalytic hydrovisbreaker;
a middle-distillate hydrocracking unit (2) comprising an inlet and an outlet for LPG (22), an outlet for light-distillate (32) and an outlet for hydrowax (42); and
a steam cracking unit (4),
wherein at least a portion of one or more of the group consisting of the middle-distillate produced by resid upgrading (43) and kerosene and/or gasoil (41) is fed to the inlet to the middle-distillate hydrocracking unit and wherein at least a portion of one or more of the group consisting of the light-distillate produced by resid upgrading (33), light-distillate produced by middle-distillate hydrocracking (32) and hydrowax (42) is fed to the steam cracking unit (4).

10. The process installation according to claim 9, wherein the resid upgrading unit (3) is a resid hydrocracking unit.

11. The process installation according to claim 9 or 10, wherein at least a portion of one or more selected from the group consisting of the gases fraction (21), LPG produced by resid upgrading (23) and LPG produced by middle-distillate hydrocracking (22) is fed to the steam cracking unit (4).

12. The process installation according to any one of claims 9-11, wherein at least a portion of the naphtha (31) is fed to the steam cracking unit (4).

13. The process installation according to any one of claims 9-12, wherein the middle-distillate hydrocracking unit (2) comprises a further outlet for a heavy-distillate (52) wherein at least of a portion of the heavy-distillate (52) is fed to the resid upgrading unit (3).

14. The process installation according to any one of claims 9-13, wherein the steam cracking unit (4) comprises a further outlet for a middle-distillate (44), wherein at least a portion of the middle-distillate (44) is fed to the middle-distillate hydrocracking unit (2).

15. The process installation according to any one of claims 9-14, wherein the resid upgrading unit is the resid hydrocracker the steam cracking unit (4) comprises a further outlet for a heavy-distillate (54), wherein at least a portion of the heavy-distillate (54) is fed to the resid upgrading unit (3).