WHAT IS CLAIMED IS:

1. A process for hydroconversion of normal paraffins, comprising:

subjecting a hydrocarbon feedstock comprising at least 5 wt.% normal paraffins to a hydroconversion reaction under hydroconversion conditions in the presence of a zeolite-based catalyst with a void greater than 0.35 nm in diameter accessible through channels with a shorter diameter greater than 0.30 nm and a longer diameter of less than 0.50 nm, and wherein the zeolite of the catalyst comprises PWO-type zeolite.

2. The process of claim 1, wherein the zeolite of the catalyst comprises a MVY, VSV, JSN, PWO, DFT, VNI, ASV, EPI, LOV, RSN, ETV, ATT, CGS, OWE, or CDO framework type.

3. The process of claim 1, wherein the feedstock comprises at least 20 wt.% normal paraffins.

4. The process of claim 1, wherein the feedstock comprises at least 50 wt.% normal paraffin.

5. The process of claim 1, wherein the feedstock is a petroleum feedstock or a petroleum based feedstock.

6. The process of claim 1, wherein the feedstock is subjected to a hydrotreatment prior to the hydroconversion reaction.

7. The process of claim 1, wherein the per-pass conversion of the normal paraffins in the feedstock is between 25 and 99%.

8. The process of claim 1, wherein a PWO-type zeolite is loaded with a hydrogenation function metal.

9. The process of claim 8, wherein the hydrogenation function metal comprises a noble metal.

10. The process of claim 9, wherein the noble metal comprises Pd, Pt, Au or a mixture thereof.

11. The process of claim 9, wherein the hydrogenation function metal component comprises Ni, Mo, W, their sulfides, or a mixture thereof.

12. A process for preparing a catalyst for hydroconversion of normal paraffins comprising:

a) choosing a PWO-type zeolite that has a pore system with access through channels less than 0.45 nm in diameter and expansions greater than 0.5 nm in diameter;

b) confirming the zeolite in n-C_{10} hydrocracking exhibits an iC_4/nC_4 in the product less than 0.5; and

c) loading the zeolite with a hydrogenation function metal to thereby prepare a hydroconversion catalyst.

13. The process of claim 12, wherein the PWO-type zeolite is loaded with a hydrogenation function metal.

14. The process of claim 13, wherein the hydrogenation function metal comprises a noble metal.

15. The process of claim 14, wherein the noble metal comprises Pd, Pt, Au or a mixture thereof.

16. The process of claim 14, wherein the hydrogenation function metal component comprises Ni, Mo, W, their sulfides, or a mixture thereof.

17. The process of claim 12 wherein the iC_4/nC_4 ratio in the product is less than 0.25.

18. A process for hydroconversion of normal paraffins, comprising:

subjecting a hydrocarbon feedstock comprising at least 20 wt.% normal paraffins to a hydroconversion reaction under hydroconversion conditions in the presence of the hydroconversion catalyst prepared in claim 12.

19. The process of claim 18, wherein the zeolite of the catalyst comprises PST-21.

20. The process of claim 1 or 18, wherein a product is recovered from the reaction and passed to a steam cracker.

21. The process of claim 1 or 18, wherein the product is passed to a steam cracker with no separation step before being fed to the steam cracker.

22. The process of claim 1, 12, or 18, wherein the zeolite of the catalyst is a channel based zeolite with a d-sphere/d-avg < 1.5.

23. A PWO-type zeolite-based catalyst that is loaded with a hydrogenation function metal, and the zeolite has voids greater than 0.35 nm in diameter accessible through channels with a shorter diameter greater than 0.30 nm and a longer diameter of less than 0.50 nm, and which in n-C_{10} hydrocracking exhibits an iC_4/nC_4 product ratio of less than 0.5.