Claims:

1. A method for validating a chemical synthesis, the method comprising the steps of:
performing a chemical synthesis in a chemical synthesiser;
recording analytical data during the chemical synthesis, and developing a profile for the analytical data recorded over time; and
comparing the profile for the chemical synthesis against a reference profile, which reference profile is the analytical data recorded over time for a reference chemical synthesis,
wherein the chemical synthesis and the reference chemical synthesis share at least the same reagents and method steps for the same intended product, such as the chemical synthesis and the reference chemical synthesis sharing the same instruction set.

2. The method of claim 1, wherein the analytical data is recorded throughout the chemical synthesis.

3. The method of claim 1 or claim 2, wherein the analytical data is recorded continuously.

4. The method of any one of the previous claims, wherein the analytical data is pressure data, such as the pressure within a reaction vessel for use in the chemical synthesis.

5. The method of any one of the previous claims, wherein the chemical synthesis comprises two or more, such as three or more, chemical reactions, which chemical reactions are optionally in series.

6. The method of claim 5, wherein each chemical reaction includes one or more associated work-up, purification and/or preparation steps.

7. The method of any one of the previous claims, wherein the chemical synthesiser is an autonomous chemical synthesiser, such that the chemical synthesis is performed autonomously and the recording of analytical data is performed autonomously, and optionally the comparison of profiles is performed autonomously.

8. The method of any one of the previous claims, wherein the method comprises a step of generating a reactionware, such as a reaction vessel, for the performance of a chemical reaction within the chemical synthesis.

9. An apparatus for use in the method of validating a chemical synthesis, the apparatus comprising a chemical synthesiser, an analytical unit and a control unit, wherein:
the chemical synthesiser comprises a reactionware for the performance of chemical reactions, which reactionware is optionally also provided with one or more modules for work-

up and purification, and further comprising reagents, optionally together with solvents and catalysts, for use in the chemical synthesis;

the analytical unit is adapted for measuring analytical data from the reactionware over time, and for reporting analytical data to the control unit; and

the control unit is for receiving analytical data from the analytical unit over time, and is adapted to construct a profile from the analytical data, and the control unit further holding a reference profile for comparison against the profile constructed from the analytical data.

10. The apparatus of claim 9, wherein the analytical unit comprises a pressure sensor.

11. The apparatus of claim 9 or claim 10, wherein the apparatus is a portable platform.

12. The apparatus of any one of claims 9 to 11, wherein the chemical synthesiser is an autonomous chemical synthesiser.

13. The apparatus of any one of claims 9 to 12, wherein the reactionware is monolithic.

14. The apparatus of any one of claims 9 to 13, wherein the reactionware is glass.

15. The apparatus of claim 13 or 14, wherein the reactionware comprises one or more filter reactors and a collection vessel, wherein the filter reactors and collection vessel are fluidically connected in series.

16. The apparatus of claim 15 wherein the reactionware comprises a first filter reactor, a second filter reactor and a collection vessel, wherein the first filter reactor, second filter reactor and collection vessel are fluidically connected in series.

17. The apparatus of claim 15 or 16, further comprising a manifold for controlling positive gas pressure and negative gas pressure in the reactionware, for transferring fluid between the first filter reactor, a second filter reactor and a collection vessel.

18. A method for generating a reference profile for a chemical synthesis, the method comprising the steps of:

performing a chemical synthesis in a chemical synthesiser;

recording analytical data during the chemical synthesis, and developing a reference profile for the analytical data recorded over time; and

providing the reference profile together with the instruction set for the chemical synthesis, wherein the instruction set is for the performance of the chemical synthesis using a reactionware, the instruction set optionally also for the preliminary generation of the reactionware for the chemical synthesis.

19. The method of claim 18, wherein the analytical data is recorded throughout the chemical synthesis.

20. The method of claim 18 or claim 19, wherein the analytical data is recorded continuously.

21. The method of any one of claims 18 to 20, wherein the analytical data is pressure data, such as the pressure within a reaction vessel for use in the chemical synthesis.

22. The method of any one of claims 1 to 8, wherein the reference profile is generated by the method of any one of claims 18 to 21.