List of instrument/equipment used

1. Turmeric rhizomes were commuted in pilot plant model pulveriser (Pilots India, Thrissur, Kerala, India).

2. Absorbance of samples in UV and visible range were measured by an UV-visible spectrophotometer (Model # UV-160A, Shimadzu, Japan).

3. Flow behaviour of dispersions was measured using a Controlled stress rheometer with coaxial cylinder (Z41) attachment (Model # RS6000 Haake RheoWin, Thermo Scientific, Karlsruhe, Germany).

4. Pasting characteristics of starch was estimated using the Micro visco-amylograph (Model # 803201, Brabender, Duisberg, Germany).

5. Thermal characteristics of starch were measured using a Differential scanning calorimeter (Model # DSC2010, TA Instrument, New Castle, DE, USA) along with analysis software (Universal Analysis Version 2000).

6. Structural features of starch were measured using a FTIR spectrophotometer (Model # Nicolet 5700, Thermo Electron Corporation, Madison, WI, USA).

7. Crytallinity pattern of starch was measured by X-ray diffractometer (Model # Rigaku Miniflux II Benchtop XRD System, Tokyo, Japan) equipped with a monochromator attachment that selects Kα radiation from a copper target generated under a target voltage of 40 kV and a tube current of 30 mA.


9. Volatile oil was quantified and characterised using a Gas Chromatograph equipped with flame ionisation detector (Model # Fisons GC 8000 series, CE Instruments, Thermo Quest, Rodano, Italy).
10. Composition of volatile oil was determined by using a Gas Chromatograph equipped with quadrupole mass spectrometer (Model # Turbomass Gold, Perkin-Elmer International, Huenenberg, Switzerland).

11. Individual curcuminoids were quantified by using a High Performance Liquid Chromatograph (Model # LC10A, Shimadzu, Japan) equipped with 2487 dual UV-vis absorbance detector set at a sensitivity of 0.01 AUFS.

12. Mixing of powder samples was performed in a Hobart mixer (Model #1/BSP-BM7, Bakery Mixer, Malaysia).

13. Powder flow behaviour of agglomerated sample was determined using powder flow analyzer attachment of the Texture Measuring System (Model # TAXT Plus, Stable Micro Systems, Surrey, UK).

14. Corn starch and other samples were compacted in a Rotary Tabletting Machine (Model # CMD3-16, Cadmach, Ahmedabad, India).

15. Compression characteristics of compacted mass were studied by employing an Universal Texture Testing Machine (Model # TAHD, Stable Micro Systems, Surrey, UK).

16. The turmeric samples were agglomerated in a laboratory model Granulator (Model # CMJ-8, Cadmach Machinery, Ahmedabad, India).

17. The colour parameters of turmeric samples were determined using a Colourimeter (Model # LABSCAN XE, Hunter Associate Laboratory, Virginia, USA).