Fast DSC and Variable Temperature Terahertz Spectroscopy of Sulphathiazole Polymorphs

Terry Threlfall [a], Paul Gabbott [b] , Axel Zeitler [c]

[a] University of Southampton , SO17 1 BJ, UK

[b] PETA Solutions Ltd, Beaconsfield, UK

[c] Teraview Ltd, Cambridge,UK

'Ordinary' DSC is unsatisfactory for identifying or distinguishing the polymorphs of sulphathiazole, because the three lower melting polymorphs transform by defect-mediated processes at any temperature, or mixture of temperatures, from 120°C to 177°C depending on the crystal perfection. By running at 300° per minute, the melting points can be seen, although even at this rate, subsequent recrystallisation cannot totally be suppressed. The results are compared with the variable temperature terahertz spectra.