

ISO/TS 14101:2012-11 (E)

Surface characterization of gold nanoparticles for nanomaterial specific toxicity screening: FT-IR method

Contents		Page
Foreword		iv
Introduction		v
1	Scope	1
2	Normative references	1
3	Terms and definitions	1
4	Symbols and abbreviated terms	3
5	Sample preparation mode	3
5.1	Removal of unbound molecules	3
5.2	Dehydration	6
5.3	Screening test for impurities in DW from sample tubes	6
6	FT-IR measurement procedure	7
6.1	General	7
6.2	ATR method	7
6.3	Transmission method	8
6.4	Determination of time required for complete purge	9
6.5	Linear range of IR band intensity versus concentration	10
6.6	LOD and LOQ determination	11
6.7	Repeatability determination	12
7	Application examples	12
7.1	Degrees of ligand exchange	12
7.2	Qualitative measurement of biomolecular binding	13
Annex A (informative) Case study for validation of ligand exchange		15
Annex B (informative) Case study for qualitative measurement of biochemical moieties binding to the AuNP surface		17
Annex C (informative) Selection guide for window materials		20
Bibliography		21