

Analytical Techniques Available for Flexible and Printed Electronics

OLED

OTFT



Objective	Evaluation item	Analytical method
Reverse engineering	Structural analysis	GCIB-TOF-SIMS, LC/MS
	Film thickness	High-contrast TEM, EDX
Degradation estimation	Organic degradation	GCIB-TOF-SIMS
	Diffusion	SIMS
	Work function variation	XPS
Characteristic evaluation	Orientation	Raman, XAFS
	Fluorescence (OLED)	PL, CL

Objective	Evaluation item	Analytical method
Dispersion	Particle size distribution	Light Diffraction, SAXS
	Dispersion state	NMR
Reverse engineering	Liquid composition	NMR, MALDI-MS, GC/MS
	Inorganic particles	ICP-AES, ICP-MS
	Surface preparation agent	IR, py-GC/MS, TOF-SIMS
Characteristic of printed Ink	Morphological observation	SEM, TEM
	Reaction mechanism	TPD-MS, IR

Functional Inks



OPV



Objective	Evaluation item	Analytical method
Structural Analysis	Dispersion	GCIB-TOF-SIMS, D-SIMS Cs-STEM, EDX
Composition, Impurities	Organic	LC/MS, NMR
	Inorganic	ICP-AES, ICP-MS

Objective	Evaluation item	Analytical method
Composition analysis	Adhesive structure	μ -IR, EDX, py-GC/MS
	Sealing film structure	IR, py-GC/MS, GD-OES
Degradation estimation	Water penetration	D ₂ O Disclosure-SIMS
	Gap production	SAT, SEM
	Foreign particles	μ -IR, Raman
Characteristic evaluation	Refractive Index	Ellipsometry
	Pore size	PALS

Seal

Package

