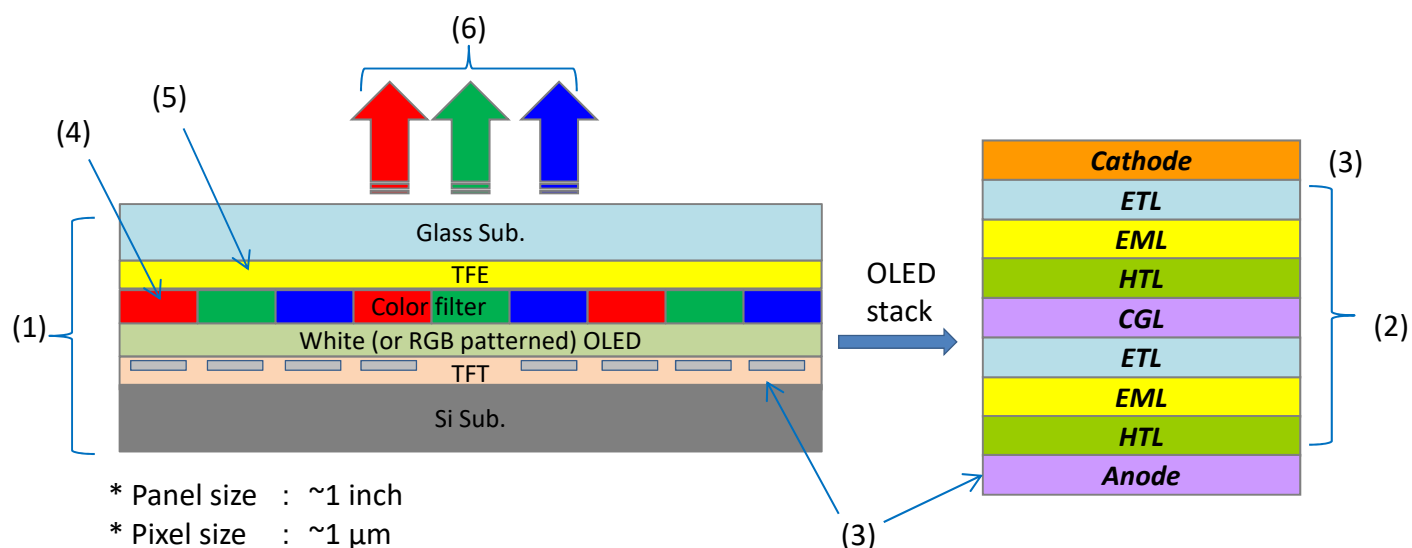


Analytical techniques available for μ -OLED

Typical structure of μ -OLED



Analytical techniques

Objective	Analytical purposes	Analytical techniques
(1) Whole structure	Cross-sectional image	Cross-sectional SEM, TEM
	Compositional analysis	SEM-EDX, TEM-EDX, TEM-EELS
(2) Organic layer in OLED stack	Layer structure, thickness	High-contrast TEM
	Chemical structure, organic impurity	GCIB-TOF-SIMS, LC/MS, MS/MS, LESA-ESI-MS
	Inorganic impurity	SIMS
	Optical characteristics	μ -ellipsometry
(3) Anode, cathode, TFT, insulator	Compositional analysis of organics and inorganics	TEM-EDX, SIMS, TOF-SIMS
	Crystallinity, grain analysis	ASTAR
	Impurity, TFT dopant	SIMS, SCM, SSRM
	Vacancy, film property	CL, Raman
(4) Color filter	Compositional analysis	μ -FT-IR, TOF-SIMS, TEM-EDX
	Optical characteristics	Visible absorption spectrum
(5) Capping layer (Thin Film Encapsulation)	Compositional analysis of organics and inorganics	TEM-EDX, TEM-EELS, TOF-SIMS, μ -FT-IR
	Sealing characteristics	SIMS with isotope marker
(6) Luminescence property	Optical characteristics	EL, PL, GSP+PL (PL on inclined surface)