

## Comparative overview of common materials used for cell culture devices

	Glass	PDMS	Teflon	PS	PMMA	PC	COC	OSTE
Material class	Inorganic	Elastomer	Thermoplastic	Thermoplastic	Thermoplastic	Thermoplastic	Thermoplastic	Thermoset
Common fabrication method	Photolithography	Casting	Casting-CNC Milling	Injection molding-CNC Milling	Injection molding-CNC Milling	Injection molding-CNC Milling	Injection molding-CNC Milling	Reaction injection molding-casting
Knowledge base in cell culture	Very high	Good	Low	Very high	Good	Good	Good	Good
Biological inertness	Very high	Good	High	High	High	High	High	High
Mechanical properties	Stiff	Elastomer	Stiff	Stiff	Stiff	Stiff	Stiff	Tunable
Cell attachment	Very High	Low	Very low	Very high	High	High	High	Very high
Ease of prototyping	Very low	Very high	Low	Good	Good	Good	Good	Very high
Gas Permeability	Very low	High	Low	Low	Low	Low	Low	Low
Optical transparency	Very high	High	Low	Good	High	Good	Very high	High
Functionalisation	Back-end processing	Back-end processing	Back-end processing	Back-end processing	Back-end processing	Back-end processing	Back-end processing	Intrinsically functional surface
Bonding	Back-end processing	Back-end processing	Back-end processing	Back-end processing	Back-end processing	Back-end processing	Back-end processing	Direct covalent bonding
Hydrophobicity	Hydrophilic	Hydrophobic	Hydrophobic	Hydrophobic	Hydrophobic	Hydrophobic	Hydrophobic	Hydrophilic
Prototyping cost	Very high	Low	High	Good	Good	Good	Good	Low
Reusability	Yes	No	No	Yes	Yes	Yes	Yes	Yes