Bio-Spun™ Scaffold	Type	Application	Differential Advantage vs. Current State	Potential Models
Polyester (PET)	Non-Degradable	• Cosmeceuticals • Drug Discovery • Tox Screening • Cell Delivery • Microfluidics Models • Organ-on-a-Chip Models • Wound Healing	• Scaffold made from polymers that are used in current membrane (polymer recognition) • No animal proteins required to achieve tissue attachment • Staggered porosity allows for tissue ingrowth to better replicate ECM • Contraction does not occur due to cellular infiltration	Skin, Airway, Lung, Intestine, Liver, Organoid, Spheroid (Beneficial for models that require tissue depth, such as full thickness skin models)
Polyurethane (PU)	Non-Degradable	• Drug Discovery • Tox Screening • Microfluidics Models • Organ-on-a-Chip Models	• Scaffold has elastic properties to better replicate flexure in tissues in heart, muscle and lungs vs stiff membranes • No animal proteins required to achieve tissue attachment • Staggered porosity allows for tissue ingrowth to better replicate ECM • Contraction does not occur due to cellular infiltration	Cardiac, Lung, Arterial, Blood/Brain Barrier and Muscle (Beneficial for models that require cells to remain more surface bound, such as partial thickness models)
PLGA-PLLA Bilayer (Apical : PDLGA Basal: PLLA Electrospun)	Biodegradable	• Cosmeceuticals • Drug Discovery • Tox Screening • Wound Healing • Tissue Regeneration • Microfluidics Models • Organ-on-a-Chip Models	• Scaffold degrades over time leaving only grown tissue • 3D structure results in 3D tissue formation with human proteins • No animal proteins required to achieve tissue attachment • Staggered porosity allows for tissue ingrowth to better replicate ECM	Eye, Skin, Airway, Liver, Gut (Beneficial for models that require tissue depth and want limited scaffold to remain, such as full thickness skin models)
PLGA	Biodegradable	• Cosmeceuticals • Drug Discovery • Tox Screening • Wound Healing • Tissue Regeneration • Microfluidics Models • Organ-on-a-Chip Models	• Scaffold degrades over time leaving only grown tissue • 3D structure results in 3D tissue formation with human proteins • No animal proteins required to achieve tissue attachment • Staggered porosity allows for tissue ingrowth to better replicate ECM	Eye, Skin, Airway, Liver, Gut (Beneficial for models that require cells to remain more surface bound or apart and would like the scaffold to mostly dissolve, such as partial thickness models)