Engineering microscale topographies to control the cell-substrate interface

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#	Paper	IF	Citations
535	Synergistic effects of physical and chemical guidance cues on neurite alignment and outgrowth on biodegradable polymer substrates. **2002**, 8, 367-78		136
534	Fabrication of polymeric substrates with micro- and nanoscale topography bioimprinted at progressive cell morphologies. **2012**, 30, 06F902		4
533	Controlling self-renewal and differentiation of stem cells via mechanical cues. **2012**, 2012, 797410		132
532	Physically based principles of cell adhesion mechanosensitivity in tissues. **2012**, 75, 116601		105
531	Responsive culture platform to examine the influence of microenvironmental geometry on cell function in 3D. **2012**, 4, 1540-9		42
530	Patterning of two-level topographic cues for observation of competitive guidance of cell alignment. *ACS Applied Materials & Interfaces*, **2012**, 4, 3888-92	9.5	19
529	Fabrication of novel collagen-silica hybrid membranes with tailored biodegradation and strong cell contact guidance ability. **2012**, 22, 21885		26
528	Co-continuous morphology on spin coating produced thin TiO2 films. **2012**, 64, 390-403		2
527	Material strategies for creating artificial cell-instructive niches. **2012**, 23, 820-5		41
526	PGS:Gelatin nanofibrous scaffolds with tunable mechanical and structural properties for engineering cardiac tissues. *Biomaterials*, **2013**, 34, 6355-66	15.6	236
525	On being the right size: scaling effects in designing a human-on-a-chip. **2013**, 5, 1149-61		107
524	A novel porous scaffold fabrication technique for epithelial and endothelial tissue engineering. **2013**, 24, 1659-70		15
523	Chitin Nanofiber Micropatterned Flexible Substrates for Tissue Engineering. **2013**, 1,		55
522	Stem Cell Nanotechnology. **2013**,		2
521	Cell-material interactions revealed via material techniques of surface patterning. **2013**, 25, 5257-86		370
520	Label-free optical detection of cells grown in 3D silicon microstructures. **2013**, 13, 3284-92		7
519	Finite element analysis of traction force microscopy: influence of cell mechanics, adhesion, and morphology. **2013**, 135, 71009		26

518	On chip guidance and recording of cardiomyocytes with 3D mushroom-shaped electrodes. **2013**, 13, 5379-84		51
517	Photocrosslinkable kappa-carrageenan hydrogels for tissue engineering applications. **2013**, 2, 895-907		140
516	Small surface nanotopography encourages fibroblast and osteoblast cell adhesion. **2013**, 3, 10309		56
515	Effects of aspect ratios of stem cells on lineage commitments with and without induction media. *Biomaterials*, **2013**, 34, 930-9	15.6	114
514	Effect of micro- and nanoscale topography on the adhesion of bacterial cells to solid surfaces. **2013**, 79, 2703-12		213
513	Possible functional scaffolds for periodontal regeneration. **2013**, 49, 118-130		31
512	Effects of surface molecular chirality on adhesion and differentiation of stem cells. *Biomaterials*, **2013**, 34, 9001-9	15.6	86
511	Shape-dependent cell migration and focal adhesion organization on suspended and aligned nanofiber scaffolds. **2013**, 9, 7169-77		79
510	The effect of electrically charged polyion complex nanoparticle-coated surfaces on adipose-derived stromal progenitor cell behaviour. *Biomaterials*, **2013**, 34, 9096-102	15.6	11
509	Micropatterned film with nano-porous sodium titanate structure fabricated via template-free direct laser irradiation technology: Characteristics and set-selective apatite deposition ability. **2013**, 235, 267-272		4
508	Topographical control of ocular cell types for tissue engineering. **2013**, 101, 1571-84		17
507	Regulation of periodontal ligament cell behavior by cyclic mechanical loading and substrate nanotexture. **2013**, 84, 1504-13		17
506	Electroporation of adherent cells with low sample volumes on a microscope stage. **2013**, 216, 3591-8		12
505	Density Functional Theory Study of the Interaction of Arginine-Glycine-Aspartic Acid with Graphene, Defective Graphene, and Graphene Oxide. **2013**, 117, 5708-5717		61
504	Electrically modulated microtransfer molding for fabrication of micropillar arrays with spatially varying heights. **2013**, 29, 1351-5		22
503	Fabrication of 3D cell-laden hydrogel microstructures through photo-mold patterning. **2013**, 5, 035002		49
502	Two-photon polymerization of sub-micrometric patterned surfaces: investigation of cell-substrate interactions and improved differentiation of neuron-like cells. *ACS Applied Materials & Interfaces*, **2013**, 5, 13012-21	9.5	76
501	Patterned polymeric surfaces to study the influence of nanotopography on the growth and differentiation of mesenchymal stem cells. **2013**, 1058, 77-88		3

500	FIB Patterning of Stainless Steel for the Development of Nano-structured Stent Surfaces for Cardiovascular Applications. **2013**, 391-416		
499	Isotropically Etched Silicon Microarrays for Rapid Breast Cancer Cell Capture. **2013**, 13, 1125-1132		9
498	Enhanced osteogenic fate and function of MC3T3-E1 cells on nanoengineered polystyrene surfaces with nanopillar and nanopore arrays. **2013**, 5, 025007		27
497	Bio-origami hydrogel scaffolds composed of photocrosslinked PEG bilayers. **2013**, 2, 1142-50		160
496	Selective modulation of cell response on engineered fractal silicon substrates. *Scientific Reports*, **2013**, 3, 1461	4.9	30
495	Fabrication of 3D microstructures from interactions of immiscible liquids with a structured surface. **2013**, 25, 4107-12		10
494	New technologies for surgery of the congenital cardiac defect. **2013**, 4, e0019		20
493	Boron nitride nanotube-mediated stimulation of cell co-culture on micro-engineered hydrogels. **2013**, 8, e71707		54
492	Application of Carbon Nanomaterials to Biointerface. **2014**, 65, 262-267		
491	Cell microenvironment engineering and monitoring for tissue engineering and regenerative medicine: the recent advances. **2014**, 2014, 921905		129
490	Bioimprinted polymer platforms for cell culture using soft lithography. **2014**, 12, 60		12
489	The Micropillar Structure on Silk Fibroin Film Influence Intercellular Connection Mediated by Nanotubular Structures. **2014**, 7, 4628-4639		3
488	Micropatterned coumarin polyester thin films direct neurite orientation. *ACS Applied Materials & Interfaces*, **2014**, 6, 19655-67	9.5	15
487	Fabrication of Tubular Scaffolds with Controllable Fiber Orientations Using Electrospinning for Tissue Engineering. **2014**, 299, 1425-1429		6
486	Deconstructing the Effects of Matrix Elasticity and Geometry in Mesenchymal Stem Cell Lineage Commitment. **2014**, 24, 2396-2403		30
485	Fabrication of polystyrene microscale porous substrate and its effects on HL-7702 cells behaviors. **2014**, 102, 1518-26		3
484	Focused Ion Beam Technology as a Fabrication and Inspection Tool in Neuron Interfacing. **2014**, 183-205		
483	Alignment of human cardiomyocytes on laser patterned biphasic core/shell nanowire assemblies. **2014**, 25, 495101		7

482	Modulation of human dermal microvascular endothelial cell and human gingival fibroblast behavior by micropatterned silica coating surfaces for zirconia dental implant applications. **2014**, 15, 025001		23
481	Ultra-fast laser microprocessing of medical polymers for cell engineering applications. **2014**, 37, 241-50		39
480	Synergistic hierarchical silicone-modified polysaccharide hybrid as a soft scaffold to control cell adhesion and proliferation. **2014**, 10, 3546-56		12
479	Osteogenic lineage restriction by osteoprogenitors cultured on nanometric grooved surfaces: the role of focal adhesion maturation. **2014**, 10, 651-60		51
478	Design and characterization of surfaces presenting mechanical nanoheterogeneities for a better control of cell□material interactions. **2014**, 442, 164-172		3
477	Engineering physical microenvironment for stem cell based regenerative medicine. **2014**, 19, 763-73		48
476	Bio-chemo-mechanical models for nuclear deformation in adherent eukaryotic cells. **2014**, 13, 929-43		21
475	Nanotechnology and Neuroscience: Nano-electronic, Photonic and Mechanical Neuronal Interfacing. **2014**,		10
474	A review of microfabrication and hydrogel engineering for micro-organs on chips. *Biomaterials*, **2014**, 35, 1816-32	15.6	166
473	Integrated micro/nanoengineered functional biomaterials for cell mechanics and mechanobiology: a materials perspective. **2014**, 26, 1494-533		109
472	Cell response to nanocrystallized metallic substrates obtained through severe plastic deformation. *ACS Applied Materials & Interfaces*, **2014**, 6, 7963-85	9.5	100
471	Molecularly engineered surfaces for cell biology: from static to dynamic surfaces. **2014**, 30, 3290-302		31
470	Single-cell 3D Bio-MEMS environment with engineered geometry and physiologically relevant stiffnesses. **2014**,		1
469	Polyelectrolyte Multilayer Patterns Created by Capillary Force and Their Impact on Cell Migration. **2014**, 32, 66-72		8
468	Smooth muscle architecture within cell-dense vascular tissues influences functional contractility. **2014**, 6, 1201-10		16
467	The influence of gold surface texture on microglia morphology and activation. *Biomaterials Science*, **2014**, 2, 110-120	7.4	20
466	Differential response of endothelial and endothelial colony forming cells on electrospun scaffolds with distinct microfiber diameters. **2014**, 15, 821-9		38
465	Nanostructured Brownian surfaces prepared through two-photon polymerization: investigation of stem cell response. **2014**, 8, 11869-82		22

464	Directed differentiation of pluripotent stem cells to kidney cells. **2014**, 34, 445-61		30
463	Modulating particle adhesion with micro-patterned surfaces. *ACS Applied Materials & Interfaces* , **2014**, 6, 8199-207	9.5	11
462	Simple and non-toxic fabrication of poly(vinyl alcohol)-patterned polymer surface for the formation of cell patterns. **2014**, 316, 179-186		4
461	Influence of surface topography on the human epithelial cell response to micropatterned substrates with convex and concave architectures. **2014**, 8, 13		30
460	Preparation of Mineralized Electrospun Fibers as a Biomimetic Nanocomposite. *International Journal of Polymeric Materials and Polymeric Biomaterials*, **2014**, 63, 576-582	3	5
459	Surface plasma treatment of poly(caprolactone) micro, nano, and multiscale fibrous scaffolds for enhanced osteoconductivity. **2014**, 20, 1689-702		43
458	Investigating the suitability of electrohydrodynamic lithography for the fabrication of cell substrates. *Journal of Materials Science*, **2014**, 49, 4045-4057	4.3	4
457	A review of the effects of the cell environment physicochemical nanoarchitecture on stem cell commitment. *Biomaterials*, **2014**, 35, 5278-5293	15.6	103
456	Skeletal muscle tissue engineering: methods to form skeletal myotubes and their applications. **2014**, 20, 403-36		164
455	Nano/microfibrous polymeric constructs loaded with bioactive agents and designed for tissue engineering applications: a review. **2014**, 102, 1562-79		63
454	Polymeric Biomaterials for Implantable Prostheses. **2014**, 309-331		12
453	Selective dual-side functionalization of hollow SiO2 micropillar arrays for biotechnological applications. **2014**, 4, 11409		17
452	Guidance of neural regeneration on the biomimetic nanostructured matrix. **2014**, 463, 177-83		14
451	Engineering cell alignment in vitro. **2014**, 32, 347-65		169
450	Systematically organized nanopillar arrays reveal differences in adhesion and alignment properties of BMSC and Saos-2 cells. **2014**, 119, 71-81		9
449	Selective adsorption of L1210 leukemia cells/human leukocytes on micropatterned surfaces prepared from polystyrene/polypropylene-polyethylene blends. **2014**, 113, 403-11		2
448	Nanoclay-enriched poly(e-caprolactone) electrospun scaffolds for osteogenic differentiation of human mesenchymal stem cells. **2014**, 20, 2088-101		111
447	Microfluidic techniques for development of 3D vascularized tissue. *Biomaterials*, **2014**, 35, 7308-25	15.6	215

446	Tough and flexible CNT-polymeric hybrid scaffolds for engineering cardiac constructs. *Biomaterials*, **2014**, 35, 7346-54	15.6	209
445	Cardiac tissue engineering in magnetically actuated scaffolds. **2014**, 25, 014009		50
444	Anisotropic cell-to-cell spread of vaccinia virus on microgrooved substrate. *Biomaterials*, **2014**, 35, 5049-55	15.6	10
443	Selective binding of oligonucleotide on TiO 2 surfaces modified by swift heavy ion beam lithography. **2014**, 339, 67-74		4
442	Chapter 9: Cell Behavior on Electrospun Scaffolds: Factors at Play on Nanoscale. **2014**, 393-434		1
441	Nanoscale Mechanical Testing of FIB-Isolated Biological Specimens. **2014**, 382-391		
440	Severe Shot Peening to Obtain Nanostructured Surfaces: Process and Properties of the Treated Surfaces. **2015**, 299-323		4
439	Directional cell elongation through filopodia-steered lamellipodial extension on patterned silk fibroin films. **2015**, 10, 011005		25
438	Response of MG63 osteoblast-like cells to ordered nanotopographies fabricated using colloidal self-assembly and glancing angle deposition. **2015**, 10, 04A306		12
437	Surface chemistry gradients on silicone elastomers for high-throughput modulation of cell-adhesive interfaces. **2015**, 103, 2066-76		7
436	Cardiomyocyte-Driven Actuation in Biohybrid Microcylinders. **2015**, 27, 4509-4515		40
435	Patterned polymer matrix promotes stemness and cell-cell interaction of adult stem cells. **2015**, 9, 18		12
434	Planar Photonic Crystal Biosensor for Quantitative Label-Free Cell Attachment Microscopy. **2015**, 3, 1623-1632		13
433	Three-Dimensional Printing: An Enabling Technology. **2015**, 3, 1488-1507		104
432	Large-Scale Nanoelectrode Arrays to Monitor the Dopaminergic Differentiation of Human Neural Stem Cells. **2015**, 27, 6356-62		46
431	3D cardiac microtissues encapsulated with the co-culture of cardiomyocytes and cardiac fibroblasts. **2015**, 4, 1961-71		67
430	2. Nanoscale biofunctionalization of polymer surfaces by laser treatment for controlled cellular differentiation. **2015**, 179-198		
429	The characteristics of Ishikawa endometrial cancer cells are modified by substrate topography with cell-like features and the polymer surface. **2015**, 10, 4883-95		11

428	Osteoinductive peptide-functionalized nanofibers with highly ordered structure as biomimetic scaffolds for bone tissue engineering. **2015**, 10, 7109-28	21
427	Fabrication of Polymeric Coatings with Controlled Microtopographies Using an Electrospraying Technique. **2015**, 10, e0129960	22
426	Short-term effects of microstructured surfaces: role in cell differentiation toward a contractile phenotype. **2015**, 13, e92-9	1
425	Adhesion and Friction Contributions to Cell Motility. **2015**, 669-697	1
424	A guide to mechanobiology: Where biology and physics meet. **2015**, 1853, 3043-52	136
423	Rapid early formation and crystal refinement of chemical conversion hopeite coatings induced by substrate sandblasting. **2015**, 39, 7942-7947	4
422	Mitotic cells contract actomyosin cortex and generate pressure to round against or escape epithelial confinement. **2015**, 6, 8872	54
421	Mesenchymal stem cell printing and process regulated cell properties. **2015**, 7, 044106	23
420	Creased hydrogels as active platforms for mechanical deformation of cultured cells. **2015**, 15, 1160-7	13
419	Myoconductive and osteoinductive free-standing polysaccharide membranes. **2015**, 15, 139-49	51
418	Chemically fixed autologous feeder cell-derived niche for human induced pluripotent stem cell culture. **2015**, 3, 2301-2307	6
417	Neural stem cell differentiation by electrical stimulation using a cross-linked PEDOT substrate: Expanding the use of biocompatible conjugated conductive polymers for neural tissue engineering. **2015**, 1850, 1158-68	170
416	Sinusoidal wavy surfaces for curvature-guided migration of T lymphocytes. *Biomaterials*, **2015**, 51, 151-160.6	34
415	Arrayed three-dimensional structures designed to induce and maintain a cell pattern by a topographical effect on cell behavior. **2015**, 49, 256-261	7
414	Mimicking bone extracellular matrix: integrin-binding peptidomimetics enhance osteoblast-like cells adhesion, proliferation, and differentiation on titanium. **2015**, 128, 191-200	66
413	Effect of microgrooved surface topography on osteoblast maturation and protein adsorption. **2015** , 103, 2689-700	37
412	Current Translational Challenges for Tissue Engineering: 3D Culture, Nanotechnology, and Decellularized Matrices. **2015**, 3, 99-106	3
411	Mobility of the Arg-Gly-Asp ligand on the outermost surface of biomaterials suppresses integrin-mediated mechanotransduction and subsequent cell functions. **2015**, 13, 42-51	11

410	Cell response to single-walled carbon nanotubes in hybrid porous collagen sponges. **2015**, 126, 63-9		17
409	Development and functional evaluation of biomimetic silicone surfaces with hierarchical micro/nano-topographical features demonstrates favourable in vitro foreign body response of breast-derived fibroblasts. *Biomaterials*, **2015**, 52, 88-102	15.6	60
408	The role of matrix compliance on cell responses to drugs and toxins: towards predictive drug screening platforms. **2015**, 15, 589-99		9
407	Stimuli-responsive liquid crystal elastomers for dynamic cell culture. **2015**, 30, 453-462		44
406	Applications of Computational Tools in Biosciences and Medical Engineering. **2015**,		
405	Photo-patterning PEG-based hydrogels for neuronal engineering. **2015**, 72, 473-483		16
404	A Computational Based Design and Optimization Study of Scaffold Architectures. **2015**, 1-17		
403	The synergistic effect of VEGF and biomorphic silicon carbides topography on in vivo angiogenesis and human bone marrow derived mesenchymal stem cell differentiation. **2015**, 10, 045017		8
402	Vascularization of engineered musculoskeletal tissues. **2015**, 269-291		
401	Micro- and nano-topography to enhance proliferation and sustain functional markers of donor-derived primary human corneal endothelial cells. **2015**, 19, 138-48		50
400	Adhesion of adipose-derived mesenchymal stem cells to glycosaminoglycan surfaces with different protein patterns. *ACS Applied Materials & Interfaces*, **2015**, 7, 10034-43	9.5	12
399	Regulating cell behaviors on micropillar topographies affected by interfacial energy. **2015**, 5, 22916-22922		7
398	Influence of integration of TiO2 nanorods into its nanodot films on pre-osteoblast cell responses. **2015**, 126, 387-93		10
397	Positive and negative bioimprinted polymeric substrates: new platforms for cell culture. **2015**, 7, 025002		21
396	Microfabrication of Cell-Laden Hydrogels for Engineering Mineralized and Load Bearing Tissues. **2015**, 881, 15-31		4
395	The influence of nanostructured features on bacterial adhesion and bone cell functions on severely shot peened 316L stainless steel. *Biomaterials*, **2015**, 73, 185-97	15.6	167
394	Electrostatic template-assisted deposition of microparticles on electrospun nanofibers: towards microstructured functional biochips for screening applications. **2015**, 5, 83600-83607		18
393	Facile Synthesis of Conductive Polypyrrole Wrinkle Topographies on Polydimethylsiloxane via a Swelling-Deswelling Process and Their Potential Uses in Tissue Engineering. *ACS Applied Materials & Interfaces*, **2015**, 7, 23454-63	9.5	34

392	Functionalized PDMS with Versatile and Scalable Surface Roughness Gradients for Cell Culture. *ACS Applied Materials & Interfaces*, **2015**, 7, 17181-7	9.5	22
391	Support of Neuronal Growth Over Glial Growth and Guidance of Optic Nerve Axons by Vertical Nanowire Arrays. *ACS Applied Materials & Interfaces*, **2015**, 7, 18944-8	9.5	37
390	Establishing correlations in the en-mass migration of dermal fibroblasts on oriented fibrillar scaffolds. **2015**, 25, 230-9		5
389	Tapered microtract array platform for antimigratory drug screening of human glioblastoma multiforme. **2015**, 4, 405-11		14
388	Anisotropic poly (glycerol sebacate)-poly (?-caprolactone) electrospun fibers promote endothelial cell guidance. **2014**, 7, 015001		77
387	Manipulating the intersection of angiogenesis and inflammation. **2015**, 43, 628-40		24
386	Multifunctional wettability patterns prepared by laser processing on superhydrophobic TiO nanostructured surfaces. **2015**, 3, 342-347		58
385	Lithography-free fabrication of reconfigurable substrate topography for contact guidance. *Biomaterials*, **2015**, 39, 164-72	15.6	22
384	The effect of porosity on cell ingrowth into accurately defined, laser-made, polylactide-based 3D scaffolds. **2015**, 336, 2-10		75
383	Wharton's Jelly human mesenchymal stem cell contact guidance by noisy nanotopographies. *Scientific Reports*, **2014**, 4, 3830	4.9	13
382	Fabrication of complex biomaterial scaffolds for soft tissue engineering by electrospinning. **2016**, 299-330		3
381	Thin film coatings and the biological interface. **2016**, 143-164		3
380	Nano- and microstructured materials for in vitro studies of the physiology of vascular cells. **2016**, 7, 1620-1641		35
379	Microfluidic-Based Multi-Organ Platforms for Drug Discovery. **2016**, 7,		27
378	Photocrosslinkable Trehalose Derivatives Carrying Mesogenic Groups: Synthesis, Characterization, and in Vitro Evaluation for Fibroblast Attachment. **2016**, 7,		1
377	Nanofiber Alignment Regulates NIH3T3 Cell Orientation and Cytoskeletal Gene Expression on Electrospun PCL+Gelatin Nanofibers. **2016**, 11, e0154806		48
376	Controlling Growth and Osteogenic Differentiation of Osteoblasts on Microgrooved Polystyrene Surfaces. **2016**, 11, e0161466		23
375	Biomechanical Cell Regulation by High Aspect Ratio Nanoimprinted Pillars. **2016**, 26, 5599-5609		31

374	A Novel Hybrid-Structured Titanium Surface Promotes Adhesion of Human Dermal Fibroblasts and Osteogenesis of Human Mesenchymal Stem Cells while Reducing S. epidermidis Biofilm Accumulation. **2016**, 18, 518-531		5
373	Integration of 3D Printed and Micropatterned Polycaprolactone Scaffolds for Guidance of Oriented Collagenous Tissue Formation In Vivo. **2016**, 5, 676-87		69
372	Nano-Enabled Approaches for Stem Cell-Based Cardiac Tissue Engineering. **2016**, 5, 1533-53		43
371	The role of substrate topography on the cellular uptake of nanoparticles. **2016**, 104, 488-95		29
370	Control over Neurite Directionality and Neurite Elongation on Anisotropic Micropillar Arrays. **2016**, 12, 1148-52		35
369	Image-based quantification of fiber alignment within electrospun tissue engineering scaffolds is related to mechanical anisotropy. **2016**, 104, 1680-6		8
368	Periodic Nanoneedle and Buffer Zones Constructed on a Titanium Surface Promote Osteogenic Differentiation and Bone Calcification In Vivo. **2016**, 5, 364-72		14
367	Electromechanically Responsive Liquid Crystal Elastomer Nanocomposites for Active Cell Culture. **2016**, 5, 1386-1390		56
366	Fabrication and modelling of fractal, biomimetic, micro and nano-topographical surfaces. **2016**, 11, 046009		
365	Plasma nitriding of titanium alloy: Effect of roughness, hardness, biocompatibility, and bonding with bone cement. **2016**, 27, 461-474		3
364	Effect of solvent composition on the bioactive coating fabricated by micro-arc oxidation combined with electrophoretic deposition. **2016**, 20, 451-457		1
363	Engineered Microvessels for the Study of Human Disease. **2016**, 138,		16
362	Silk fibroin scaffolds with a micro-/nano-fibrous architecture for dermal regeneration. **2016**, 4, 2903-2912		43
361	Injectable shear-thinning nanoengineered hydrogels for stem cell delivery. **2016**, 8, 12362-72		114
360	Micropatterned Hydrogel Surface with High-Aspect-Ratio Features for Cell Guidance and Tissue Growth. *ACS Applied Materials & Interfaces*, **2016**, 8, 21939-45	9.5	41
359	Nanoscale surface modification of AISI 316L stainless steel by severe shot peening. **2016**, 102, 68-77		147
358	Effects of SiO micropillar arrays on endothelial cells' morphology. **2016**, 33, 781-789		9
357	Femtosecond Laser Texturing of Bio-based Polymer Films for Surface Functionalization. **2016**, 97-139		

356	Differential Behavior of Normal and Fibrotic Fibroblasts under the Synergistic Influence of Micropillar Topography and the Rigidity of Honey/Silk-Fibroin Substrates. **2016**, 2, 1528-1539		12
355	Tailoring Patterns of Surface-Attached Multiresponsive Polymer Networks. *ACS Applied Materials & Interfaces*, **2016**, 8, 24870-9	9.5	17
354	Progress in the Development and Applicability of Potential Medicinal Plant Extract-Conjugated Polymeric Constructs for Wound Healing and Tissue Regeneration. **2016**, 30, 1895-1904		18
353	How cells respond to environmental cues - insights from bio-functionalized substrates. **2017**, 130, 51-61		56
352	Physico-chemical properties of PDMS surfaces suitable as substrates for cell cultures. **2016**, 389, 247-254		29
351	Multifunctional 3D printing of heterogeneous hydrogel structures. *Scientific Reports*, **2016**, 6, 33178	4.9	42
350	Quantification of Type, Timing, and Extent of Cell Body and Nucleus Deformations Caused by the Dimensions and Hydrophilicity of Square Prism Micropillars. **2016**, 5, 2972-2982		22
349	Haptotatic Plasma Polymerized Surfaces for Rapid Tissue Regeneration and Wound Healing. *ACS Applied Materials & Interfaces*, **2016**, 8, 32675-32687	9.5	8
348	Preparation of Monodomain Liquid Crystal Elastomers and Liquid Crystal Elastomer Nanocomposites. **2016**, e53688		5
347	Automated Robotic Dispensing Technique for Surface Guidance and Bioprinting of Cells. **2016**,		7
346	Independent effects of the chemical and microstructural surface properties of polymer/ceramic composites on proliferation and osteogenic differentiation of human MSCs. **2016**, 42, 364-377		26
345	FS laser processing of bio-polymer thin films for studying cell-to-substrate specific response. **2016**, 382, 178-191		17
344	Topographic guidance based on microgrooved electroactive composite films for neural interface. **2016**, 145, 768-776		12
343	Three-dimensional hierarchical cultivation of human skin cells on bio-adaptive hybrid fibers. **2016**, 8, 775-84		13
342	A facile method to in situ fabricate three dimensional gold nanoparticle micropatterns in a cell-resistant hydrogel. **2016**, 15, 181-6		1
341	Creating Hierarchical Topographies on Fibrous Platforms Using Femtosecond Laser Ablation for Directing Myoblasts Behavior. *ACS Applied Materials & Interfaces*, **2016**, 8, 3407-17	9.5	38
340	Laser-assisted fabrication and non-invasive imaging of 3D cell-seeding constructs for bone tissue engineering. *Journal of Materials Science*, **2016**, 51, 4262-4273	4.3	13
339	A three dimensional micropatterned tumor model for breast cancer cell migration studies. *Biomaterials*, **2016**, 81, 72-83	15.6	81

338	Polymer microarray technology for stem cell engineering. **2016**, 34, 60-72		16
337	Cell response on the biomimetic scaffold of silicon nano- and micro-topography. **2016**, 4, 1891-1897		12
336	Al2O3 micro- and nanostructures affect vascular cell response. **2016**, 6, 17460-17469		10
335	Effects of Line and Pillar Array Microengineered SiO2 Thin Films on the Osteogenic Differentiation of Human Bone Marrow-Derived Mesenchymal Stem Cells. **2016**, 32, 1091-100		27
334	Effect of solvent composition on the bioactive coating fabricated by micro-arc oxidation combined with electrophoretic deposition. **2016**, 20, 1-7		2
333	Selected laser methods for surface structuring of biocompatible diamond-like carbon layers. **2016**, 67, 26-40		11
332	Regulating blood cell adhesion via surface modification of polyurethanes. **2016**, 287-318		1
331	Manipulating mammalian cell by phase transformed titanium surface fabricated through ultra-short pulsed laser synthesis. **2016**, 340, 274-82		4
330	Preparation and characterization of TiO2/silicate hierarchical coating on titanium surface for biomedical applications. **2016**, 60, 308-316		28
329	Drug-Eluting Nanotubes for Cellular Bioactivity. **2016**, 305-318		
328	Spatial Patterning of Stem Cells to Engineer Microvascular Networks. **2016**, 143-166		
327	A combinatorial variation in surface chemistry and pore size of three-dimensional porous poly(ε-caprolactone) scaffolds modulates the behaviors of mesenchymal stem cells. **2016**, 59, 193-202		44
326	Co-fabrication of chitosan and epoxy photoresist to form microwell arrays with permeable hydrogel bottoms. *Biomaterials*, **2016**, 74, 77-88	15.6	9
325	Microscale Technologies for Cell Engineering. **2016**,		3
324	Regenerative therapy for hippocampal degenerative diseases: lessons from preclinical studies. **2017**, 11, 321-333		8
323	Harvesting of Living Cell Sheets by the Dynamic Generation of Diffractive Photothermal Pattern on PEDOT. **2017**, 27, 1604260		25
322	Modified porous scaffolds of silk fibroin with mimicked microenvironment based on decellularized pulp/fibronectin for designed performance biomaterials in maxillofacial bone defect. **2017**, 105, 1624-1636		12
321	Elasticity patterns induced by phase-separation in polymer blend films. **2017**, 624, 181-186		4

320	Modulation of osteoblast behavior on nanopatterned yttria-stabilized zirconia surfaces. **2017**, 68, 26-31		6
319	Development of hydrogels for regenerative engineering. **2017**, 12, 1600394		104
318	Regulation of the microenvironment for cardiac tissue engineering. **2017**, 12, 187-201		18
317	Switchable surface structured hydrogel coatings. **2017**, 13, 2239-2245		5
316	Overview of ultrasonic shot peening. **2017**, 33, 651-666		20
315	Engineering Photocrosslinkable Bicomponent Hydrogel Constructs for Creating 3D Vascularized Bone. **2017**, 6, 1601122		42
314	One further step to cell behaviour understanding. **2017**, 4, 761-763		
313	Biomimetic scaffolds with three-dimensional undulated microtopographies. *Biomaterials*, **2017**, 128, 109-120	15.6	25
312	Multilayered membranes with tuned well arrays to be used as regenerative patches. **2017**, 57, 313-323		13
311	Dentin on the nanoscale: Hierarchical organization, mechanical behavior and bioinspired engineering. **2017**, 33, 637-649		45
310	Cell patterning via laser micro/nano structured silicon surfaces. **2017**, 9, 025024		34
309	Light-Responsive Hierarchically Structured Liquid Crystal Polymer Networks for Harnessing Cell Adhesion and Migration. **2017**, 29, 1606407		72
308	Layer-by-layer assembled polyelectrolytes on honeycomb-like porous poly(□caprolactone) films modulate the spatial distribution of mesenchymal stem cells. **2017**, 78, 579-588		9
307	Binary Fe-Pd submicron structures fabricated through glancing angle deposition (GLAD) for bioapplications. **2017**, 131, 366-374		9
306	3D Cell Culture. **2017**,		11
305	Interactions of Neurons with Physical Environments. **2017**, 6, 1700267		46
304	3D Stem Cell Niche Engineering via Two-Photon Laser Polymerization. **2017**, 1612, 253-266		4
303	Nonmonotonic Self-Deformation of Cell Nuclei on Topological Surfaces with Micropillar Array. *ACS Applied Materials & Interfaces*, **2017**, 9, 18521-18530	9.5	44

302	Bioinspired 3D Multilayered Shape Memory Scaffold with a Hierarchically Changeable Micropatterned Surface for Efficient Vascularization. *ACS Applied Materials & Interfaces*, **2017**, 9, 19725-19735	9.5	48
301	Effects of controlled micro-/nanosurfaces on osteoblast proliferation. **2017**, 105, 2589-2596		12
300	Nanotopography featured polycaprolactone/polyethyleneoxide microfibers modulate endothelial cell response. **2017**, 9, 9218-9229		20
299	Bio-functionalizing heterogeneous phase activated titanium by multiphoton ionization energy mechanism to harmonize cell proliferative behavior. **2017**, 76, 448-456		
298	Development of Tissue-Engineered Blood Vessels. **2017**, 325-361		
297	Photothermally triggered actuation of hybrid materials as a new platform for in vitro cell manipulation. **2017**, 8, 14700		69
296	Cell-matrix mechanical interaction in electrospun polymeric scaffolds for tissue engineering: Implications for scaffold design and performance. **2017**, 50, 41-55		104
295	Engineering an aligned endothelial monolayer on a topologically modified nanofibrous platform with a micropatterned structure produced by femtosecond laser ablation. **2017**, 5, 318-328		27
294	Manipulation of cellular orientation and migration by internalized magnetic particles. **2017**, 1, 933-936		2
293	Functional and Biomimetic Materials for Engineering of the Three-Dimensional Cell Microenvironment. **2017**, 117, 12764-12850		408
292	Rapid Prototyping of Polymeric Nanopillars by 3D Direct Laser Writing for Controlling Cell Behavior. *Scientific Reports*, **2017**, 7, 9247	4.9	17
291	Fabrication of Inner Grooved Hollow Fiber Membranes Using Microstructured Spinneret for Nerve Regeneration. **2017**, 139,		7
290	EFFECTS OF SUBSTRATE DEFORMABILITY ON CELL BEHAVIORS: ELASTIC MODULUS VERSUS THICKNESS. **2017**, 17, 1750088		1
289	Mechanically dynamic PDMS substrates to investigate changing cell environments. *Biomaterials*, **2017**, 145, 23-32	15.6	45
288	Laser processing of protein films as a method for accomplishment of cell patterning at the microscale. **2017**, 9, 045004		5
287	The relationship between cell adhesion force activation on nano/micro-topographical surfaces and temporal dependence of cell morphology. **2017**, 9, 13171-13186		26
286	Direct Laser Interference Patterning of CoCr Alloy Surfaces to Control Endothelial Cell and Platelet Response for Cardiovascular Applications. **2017**, 6, 1700327		27
285	Microcontact printing of polydopamine on thermally expandable hydrogels for controlled cell adhesion and delivery of geometrically defined microtissues. **2017**, 61, 75-87		21

284	Control over fine scale terrace structures induced on polycrystalline Pd by simple heat treatments in air. **2017**, 326, 327-335		1
283	Enhanced bovine serum albumin absorption on the N-hydroxysuccinimide activated graphene oxide and its corresponding cell affinity. **2017**, 81, 386-392		21
282	Topographical impact of silver nanolines on the morphology of neuronal SH-SY5Y Cells. **2017**, 5, 9346-9353		11
281	Engineered ridge and micropillar array detectors to quantify the directional migration of fibroblasts. **2017**, 7, 51436-51443		6
280	Biophysical stimulation for engineering of functional cardiac tissues. **2017**, 131, 1393-1404		16
279	Rapid and quantitative measurement of cell adhesion and migration activity by time-series analysis on biomimetic topography. **2017**, 22, 107-113		3
278	Biomaterials and Culture Technologies for Regenerative Therapy of Liver Tissue. **2017**, 6, 1600791		17
277	Synergistic effect of polyaniline coverage and surface microstructure on the inhibition of Pseudomonas aeruginosa biofilm formation. **2017**, 150, 1-7		22
276	YAP-dependent mechanotransduction is required for proliferation and migration on native-like substrate topography. *Biomaterials*, **2017**, 115, 155-166	15.6	37
275	Mediating bone regeneration by means of drug eluting implants: From passive to smart strategies. **2017**, 71, 1241-1252		37
274	Isolated effect of material stiffness on valvular interstitial cell differentiation. **2017**, 105, 51-61		8
273	Modulation of human mesenchymal and pluripotent stem cell behavior using biophysical and biochemical cues: A review. **2017**, 114, 260-280		48
272	Synthetic niche substrates engineered via two-photon laser polymerization for the expansion of human mesenchymal stromal cells. **2017**, 11, 2836-2845		25
271	Simultaneous engagement of mechanical stretching and surface pattern promotes cardiomyogenic differentiation of human mesenchymal stem cells. **2017**, 123, 252-258		10
270	Biological response of human suture mesenchymal cells to Titania nanotube-based implants for advanced craniosynostosis therapy. **2017**, 150, 59-67		11
269	Laminated electrospun nHA/PHB-composite scaffolds mimicking bone extracellular matrix for bone tissue engineering. **2017**, 72, 341-351		53
268	A Review of Structure Construction of Silk Fibroin Biomaterials from Single Structures to Multi-Level Structures. **2017**, 18,		228
267	Investigation of surface topography and stiffness on adhesion and neurites extension of PC12 cells on crosslinked silica aerogel substrates. **2017**, 12, e0185978		17

266	In vitro enteroid-derived three-dimensional tissue model of human small intestinal epithelium with innate immune responses. **2017**, 12, e0187880		58
265	. **2017**,		
264	Light-Induced Cell Alignment and Harvest for Anisotropic Cell Sheet Technology. *ACS Applied Materials & Interfaces*, **2017**, 9, 36513-36524	9.5	28
263	Bio-Instructive Cues in Scaffolds for Musculoskeletal Tissue Engineering and Regenerative Medicine. **2017**, 3-35		2
262	Nanoladders Facilitate Directional Axonal Outgrowth and Regeneration. **2018**, 4, 1037-1045		3
261	A Quasi-Concertina force-displacement MEMS probe for measuring biomechanical properties. **2018** , 275, 67-74		6
260	Micropatterned Silica Films with Nanohydroxyapatite for Y-TZP Implants. **2018**, 97, 1003-1009		4
259	Periodic microstructures on bioactive glass surfaces enhance osteogenic differentiation of human mesenchymal stromal cells and promote osteoclastogenesis in vitro. **2018**, 106, 1965-1978		5
258	Recombinant Spider Silk Functionalized with a Motif from Fibronectin Mediates Cell Adhesion and Growth on Polymeric Substrates by Entrapping Cells During Self-Assembly. *ACS Applied Materials & Interfaces*, **2018**, 10, 14531-14539	9.5	6
257	Surface instability on polyethersulfone induced by dual laser treatment for husk nanostructure construction. **2018**, 125, 20-28		6
256	Automated fabrication of photopatterned gelatin hydrogels for organ-on-chips applications. **2018**, 10, 025004		35
255	Dynamic Tracking of Osteoblastic Cell Traction Force during Guided Migration. **2018**, 11, 11-23		5
254	Hierarchical Design of Tissue Regenerative Constructs. **2018**, 7, e1701067		52
253	High resolution 3D microscopy study of cardiomyocytes on polymer scaffold nanofibers reveals formation of unusual sheathed structure. **2018**, 68, 214-222		5
252	Colon cancer cells adhesion on polymeric nanostructured surfaces. **2018**, 8, 35-39		5
251	The use of microfabrication technology to address the challenges of building physiologically relevant vasculature. **2018**, 6, 8-16		3
250	The effect of ordered and partially ordered surface topography on bone cell responses: a review. *Biomaterials Science*, **2018**, 6, 250-264	7.4	58
249	Three-dimensional graphene biointerface with extremely high sensitivity to single cancer cell monitoring. **2018**, 105, 22-28		44

248	Hydrogenated amorphous silicon coatings may modulate gingival cell response. **2018**, 436, 603-612	12
247	About Chemical Strategies to Fabricate Cell-Instructive Biointerfaces with Static and Dynamic Complexity. **2018**, 7, e1701192	23
246	Nanostructured substrates for multi-cue investigations of single cells. **2018**, 8, 49-58	5
245	Biomimetic fluoridated hydroxyapatite coating with micron/nano-topography on magnesium alloy for orthopaedic application. **2018**, 339, 7-13	23
244	Stem Cells for Skeletal Muscle Tissue Engineering. **2018**, 24, 373-391	38
243	Extracellular matrix in lung development, homeostasis and disease. **2018**, 73, 77-104	114
242	Micropatterning of reagent-free, high energy crosslinked gelatin hydrogels for bioapplications. **2018**, 106, 320-330	3
241	Neuro-Nano Interfaces: Utilizing Nano-Coatings and Nanoparticles to Enable Next-Generation Electrophysiological Recording, Neural Stimulation, and Biochemical Modulation. **2018**, 28, 1700239	24
240	Hydrogel/fiber conductive scaffold for bone tissue engineering. **2018**, 106, 718-724	46
239	Protein micropatterns printed on glass: Novel tools for protein-ligand binding assays in live cells. **2018**, 18, 124-131	8
238	Breath figures in tissue engineering and drug delivery: State-of-the-art and future perspectives. **2018**, 66, 44-66	28
237	Macrophage responses to the physical burden of cell-sized particles. **2018**, 6, 393-400	12
236	3D Maskless Micropatterning for Regeneration of Highly Organized Tubular Tissues. **2018**, 7, 1700738	8
235	Responsiveness of voltage-gated calcium channels in SH-SY5Y human neuroblastoma cells on micropillar substrates. **2018**, 29, 125-144	2
234	Inactivation of biofilms formed under high shear stress on various hydrophilic and hydrophobic surfaces by a continuous flow of ozonated water. **2018**, 34, 826-834	6
233	Effects of diamond-like carbon thin film and wrinkle microstructure on cell proliferation. **2018**, 90, 194-201	7
232	Microenvironments Designed to Support Growth and Function of Neuronal Cells. **2018**, 5,	28
231	Adhesion Behavior of Escherichia coli on Plasma-Sprayed Zn and Ag Co-incorporated Calcium Silicate Coatings with Varying Surface Roughness. **2018**, 27, 1428-1435	1

230	Spatio-Temporal Control of Cell Adhesion: Toward Programmable Platforms to Manipulate Cell Functions and Fate. **2018**, 6, 190		26
229	Patterned bacterial cellulose wound dressing for hypertrophic scar inhibition behavior. **2018**, 25, 6705-6717		17
228	Aligning Synthetic Hippocampal Neural Circuits via Self-Rolled-Up Silicon Nitride Microtube Arrays. *ACS Applied Materials & Interfaces*, **2018**, 10, 35705-35714	9.5	4
227	A novel FPCL model producing directional contraction through induction of fibroblast alignment by biphasic pulse direct current electric field. **2018**, 371, 426-434		7
226	A soft lithography method to generate arrays of microstructures onto hydrogel surfaces. **2018**, 56, 1144-1157		8
225	Fabrication and Growth Mechanism of Nanoleaf Sodium Titanate Coating on High-Purity Titanium Surface. **2018**, 281, 570-576		
224	Biofabrication via integrated additive manufacturing and electrofluidodynamics. **2018**, 71-85		1
223	Real time in vitro monitoring and impedance modeling of mammalian cell activities on planar ECIS and micro/nano patterned cytosensors. **2018**, 7, 107-122		4
222	Regulation of osteogenesis by micro/nano hierarchical titanium surfaces through a Rock-Wnt5a feedback loop. **2018**, 170, 1-10		13
221	Engineering Cell Adhesion and Orientation via Ultrafast Laser Fabricated Microstructured Substrates. **2018**, 19,		16
220	Additive electrospraying for scaffold functionalization. **2018**, 179-203		
219	Drug release kinetics of electrospun fibrous systems. **2018**, 349-374		5
218	Melt-molding technologies for 3D scaffold engineering. **2018**, 75-100		7
217	Shaping the Cell and the Future: Recent Advancements in Biophysical Aspects Relevant to Regenerative Medicine. **2018**, 3, 2		15
216	Nanotopography-Promoted Formation of Axon Collateral Branches of Hippocampal Neurons. **2018**, 14, e1801763		23
215	Controlled modification of the surface morphology and roughness of stainless steel 316 by a high speed submerged cavitating water jet. **2018**, 458, 293-304		14
214	Square prism micropillars improve osteogenicity of poly(methyl methacrylate) surfaces. **2018**, 29, 53		8
213	Influence of diameter of fiber membrane scaffolds on the biocompatibility of hPDL mesenchymal stromal cells. **2018**, 37, 465-473		6

212	Biomimetic Tissue Engineering for Musculoskeletal Tissues. **2018**, 207-223		3
211	Preparation of micro/nanopatterned gelatins crosslinked with genipin for biocompatible dental implants. **2018**, 9, 1735-1754		7
210	Effects of Pre-Treatments on Bioactivity of High-Purity Titanium. **2018**, 11,		3
209	Mesoscale substrate curvature overrules nanoscale contact guidance to direct bone marrow stromal cell migration. **2018**, 15,		32
208	Nanotechnology for Orthopedic Applications: From Manufacturing Processes to Clinical Applications. **2018**, 3-20		
207	Attenuated Glial Reactivity on Topographically Functionalized Poly(3,4-Ethylenedioxythiophene):P-Toluene Sulfonate (PEDOT:PTS) Neuroelectrodes Fabricated by Microimprint Lithography. **2018**, 14, e1800863		18
206	The Combined Effects of Bone Marrow-Derived Mesenchymal Stem Cells and Microporous Porcine Acellular Dermal Matrices on the Regeneration of Skin Accessory Cells In Vivo. **2018**, 39, 481-490		1
205	Surface patterning of a novel PEG-functionalized poly-l-lactide polymer to improve its biocompatibility: Applications to bioresorbable vascular stents. **2019**, 107, 624-634		18
204	A biomaterials approach to Schwann cell development in neural tissue engineering. **2019**, 107, 2425-2446		11
203	Designing Microenvironments for Optimal Outcomes in Tissue Engineering and Regenerative Medicine: From Biopolymers to Culturing Conditions. **2019**, 119-119		
202	Cell-Perceived Substrate Curvature Dynamically Coordinates the Direction, Speed, and Persistence of Stromal Cell Migration. **2019**, 3, e1900080		23
201	Engineering topography: Effects on corneal cell behavior and integration into corneal tissue engineering. **2019**, 4, 293-302		15
200	Engineering High-Resolution Micropatterns Directly onto Titanium with Optimized Contact Guidance to Promote Osteogenic Differentiation and Bone Regeneration. *ACS Applied Materials & Interfaces*, **2019**, 11, 43888-43901	9.5	13
199	The role of vimentin in directional migration of rat fibroblasts. **2019**, 76, 467-476		6
198	Chiral geometry regulates stem cell fate and activity. *Biomaterials*, **2019**, 222, 119456	15.6	15
197	The interactions of human ovarian cancer cells and nanotextured surfaces: cell attachment, viability and apoptosis studies.. **2019**, 9, 25957-25966		4
196	Bifunctional Bioactive Polymer Surfaces with Micrometer and Submicrometer-sized Structure: The Effects of Structure Spacing and Elastic Modulus on Bioactivity. **2019**, 24,		3
195	Drilling by light: ice-templated photo-patterning enabled by a dynamically crosslinked hydrogel. **2019**, 6, 1013-1019		32

194	Studies of 3D directed cell migration enabled by direct laser writing of curved wave topography. **2019**, 11, 021001		19
193	Human Skeletal Muscle Cells on Engineered 3D Platform Express Key Growth and Developmental Proteins. **2019**, 5, 970-976		2
192	Microwrinkled pH-sensitive hydrogel films and their role on the cell adhesion/proliferation. **2019**, 103, 109872		7
191	The role of scaffolds in tissue engineering. **2019**, 23-49		4
190	Scaffolds for tendon tissue engineering. **2019**, 259-298		1
189	Three-dimensionally Patterned Scaffolds Modulate the Biointerface at the Nanoscale. **2019**, 19, 5118-5123		20
188	Photocleavable Peptide-Poly(2-hydroxyethyl methacrylate) Hybrid Graft Copolymer via Postpolymerization Modification by Click Chemistry To Modulate the Cell Affinities of 2D and 3D Materials. *ACS Applied Materials & Interfaces*, **2019**, 11, 24577-24587	9.5	6
187	Biomechanics of Collective Cell Migration in Cancer Progression: Experimental and Computational Methods. **2019**, 5, 3766-3787		18
186	Quasi-3D morphology and modulation of focal adhesions of human adult stem cells through combinatorial concave elastomeric surfaces with varied stiffness. **2019**, 15, 5154-5162		3
185	Microstructured hybrid scaffolds for aligning neonatal rat ventricular myocytes. **2019**, 103, 109783		1
184	Osteogenic cells differentiation on topological surfaces under ultrasound stimulation. *Journal of Materials Science*, **2019**, 54, 11213-11230	4.3	2
183	Engineering Artificial Niches for Regenerative Medicine. **2019**, 103-103		
182	Flexible and Stretchable PEDOT-Embedded Hybrid Substrates for Bioengineering and Sensory Applications. **2019**, 5, 729-737		8
181	Osteoblast Responses to Titanium-Coated Subcellular Scaled Microgrooves.. **2019**, 2, 2405-2413		6
180	Gene Expression of Osteoblast-like Cells on Carbon-Nanowall as Scaffolds during Incubation with Electrical Stimulation.. **2019**, 2, 2698-2702		4
179	Hierarchical assembly in PLA-PEO-PLA hydrogels with crystalline domains and effect of block stereochemistry. **2019**, 180, 102-109		1
178	Growth Factor Engineering for Biomaterials. **2019**, 5, 5597-5609		8
177	Influence of surface topography attributes on settlement and adhesion of natural and synthetic species. **2019**, 15, 4045-4067		27

176	Surface Topography of PDMS Replica Transferred from Various Decellularized Aortic Lumens Affects Cellular Orientation. **2019**, 5, 5721-5726		3
175	Temperature-Controlled Orientation of Proteins on Temperature-Responsive Grafted Polymer Brushes: Poly(butyl methacrylate) vs Poly(butyl acrylate): Morphology, Wetting, and Protein Adsorption. **2019**, 20, 2185-2197		23
174	Bioadhesive anisotropic nanogrooved microfibers directing three-dimensional neurite extension. *Biomaterials Science*, **2019**, 7, 2165-2173	7.4	19
173	Engineered Tissue Development in Biofabricated 3D Geometrical Confinement-A Review. **2019**, 5, 3688-3702		10
172	Gliosis of astrocytes cultivated on coral skeleton is regulated by the matrix surface topography. **2019**, 14, 045005		3
171	Femtosecond laser induced densification within cell-laden hydrogels results in cellular alignment. **2019**, 11, 035005		22
170	Effect of electrical stimulation on proliferation and bone-formation by osteoblast-like cells cultured on carbon nanowalls scaffolds. **2019**, 12, 025006		6
169	Editorial: Biofunctional biomaterials and cellular systems for diagnostic and therapeutic purposes. **2019**, 14, 020201		
168	Three-dimensional microengineered models of human cardiac diseases. **2019**, 13, 29		18
167	Influence of Topological Cues on Fibronectin Adsorption and Contact Guidance of Fibroblasts on Microgrooved Titanium.. **2019**, 2, 1066-1077		5
166	Wrinkled Surfaces Designed for Biorelated Applications. **2019**, 273-290		
165	Engineered □offee-rings□ of reduced graphene oxide as ultrathin contact guidance to enable patterning of living cells. **2019**, 6, 1066-1079		19
164	Wrinkled Polymer Surfaces. **2019**,		3
163	Additive manufactured titanium for prosthetic application in dentistry: surface topography characterization and in vitro cellular response of human gingival fibroblasts (HGFs). **2019**, 22, S31-S32		
162	Electrospun acellular scaffolds for mimicking the natural anisotropy of the extracellular matrix.. **2019**, 9, 40190-40195		3
161	Three-Dimensional, Bifunctional Microstructured Polymer Hydrogels Made from Polyzwitterions and Antimicrobial Polymers. **2019**, 35, 1211-1226		13
160	Micro-/Nano-Scales Direct Cell Behavior on Biomaterial Surfaces. **2018**, 24,		36
159	Cosmetic reconstruction in breast cancer patients: Opportunities for nanocomposite materials. **2019**, 86, 41-65		9

158	Liquid Crystal-Induced Myoblast Alignment. **2019**, 8, e1801489		27
157	The multiscale stiffness of electrospun substrates and aspects of their mechanical biocompatibility. **2019**, 84, 146-158		9
156	Active wrinkles to drive self-cleaning: A strategy for anti-thrombotic surfaces for vascular grafts. *Biomaterials*, **2019**, 192, 226-234	15.6	24
155	Molecular bionics - engineering biomaterials at the molecular level using biological principles. *Biomaterials*, **2019**, 192, 26-50	15.6	18
154	Improving Quality, Reproducibility, and Usability of FRET-Based Tension Sensors. **2019**, 95, 201-213		20
153	Scanningless and continuous 3D bioprinting of human tissues with decellularized extracellular matrix. *Biomaterials*, **2019**, 194, 1-13	15.6	121
152	Proliferation of Cells with Severe Nuclear Deformation on a Micropillar Array. **2019**, 35, 284-299		16
151	Cell Form and Function: Interpreting and Controlling the Shape of Adherent Cells. **2019**, 37, 347-357		30
150	Nanoengineered biomaterials for cardiac regeneration. **2019**, 95-124		3
149	Cell Type and Nuclear Size Dependence of the Nuclear Deformation of Cells on a Micropillar Array. **2019**, 35, 7469-7477		16
148	Three-dimensional printed polycaprolactone-microcrystalline cellulose scaffolds. **2019**, 107, 521-528		25
147	Micropatterning and Alignment of Skeletal Muscle Myoblasts Using Microflowed Plasma Process. **2020**, 41, 48-57		4
146	Stretching of fibroblast cells on micropatterned gelatin on silicone elastomer. **2020**, 8, 416-425		2
145	Beta1-integrin and TRPV4 are involved in osteoblast adhesion to different titanium surface topographies. **2020**, 507, 145112		2
144	Micro/Nanostructure Engineering of Epitaxial Piezoelectric □Quartz Thin Films on Silicon. *ACS Applied Materials & Interfaces*, **2020**, 12, 4732-4740	9.5	7
143	Migration of Microparticle-Containing Amoeba through Constricted Environments. **2020**, 6, 889-897		2
142	Micropatterned hydrogels and cell alignment enhance the odontogenic potential of stem cells from apical papilla in-vitro. **2020**, 36, 88-96		13
141	Endothelial Cell Migration on Poly(□caprolactone) Nanofibers Coated with a Nanohybrid Shish-Kebab Structure Mimicking Collagen Fibrils. **2020**, 21, 1202-1213		17

140	Effects of aligned electrospun fibers with different diameters on hemocompatibility, cell behaviors and inflammation in vitro. **2020**, 15, 035005		14
139	Regulation of substrate surface topography on differentiation of mesenchymal stem cells. **2020**, 36, 1158-1169		0
138	Enhancement of Intracellular Calcium Ion Mobilization by Moderately but Not Highly Positive Material Surface Charges. **2020**, 8, 1016		3
137	Current strategies and opportunities to manufacture cells for modeling human lungs. **2020**, 161-162, 90-109		3
136	New volumetric CNT-doped gelatin□cellulose scaffolds for skeletal muscle tissue engineering. **2020**, 2, 2885-2896		14
135	Magnetic filaments for anisotropic composite polymers. **2020**, 31, 395503		2
134	Cell Type-Specific Adhesion and Migration on Laser-Structured Opaque Surfaces. **2020**, 21,		3
133	Three-dimensional scaffold-free microtissues engineered for cardiac repair. **2020**, 8, 7571-7590		8
132	Drugs eluting dental implants. **2020**, 225-240		1
131	Doxorubicin hydrochloride loaded nanotextured films as a novel drug delivery platform for ovarian cancer treatment. **2020**, 25, 1289-1301		1
130	Topographical curvature is sufficient to control epithelium elongation. *Scientific Reports*, **2020**, 10, 14784	4.9	8
129	Spatiotemporal regulation of dynamic cell microenvironment signals based on an azobenzene photoswitch. **2020**, 8, 9212-9226		7
128	Effects of topographical guidance cues on osteoblast cell migration. *Scientific Reports*, **2020**, 10, 20003	4.9	7
127	Elucidating the Role of Matrix Porosity and Rigidity in Glioblastoma Type IV Progression. **2020**, 10, 9076		0
126	Fabrication of MSM-Based Biosensing Device for Assessing Dynamic Behavior of Adherent Mammalian Cells. **2020**, 20, 9652-9659		5
125	Topographic cues reveal filopodia-mediated cell locomotion in 3D microenvironment. **2020**, 15, 031001		2
124	Controlled Dynamics of Neural Tumor Cells by Templated Liquid Crystalline Polymer Networks. **2020**, 9, e2000487		10
123	Micro-/Nanotopography on Bioresorbable Zinc Dictates Cytocompatibility, Bone Cell Differentiation, and Macrophage Polarization. **2020**, 20, 4594-4602		28

122	Dynamically directing cell organization via micro-hump structure patterned cell-adhered interfaces. **2020**, 20, 2447-2452		6
121	Friction stability and cellular behaviors on laser textured Ti-6Al-4V alloy implants with bioinspired micro-overlapping structures. **2020**, 109, 103823		13
120	Laser-induced topographies enable the spatial patterning of co-cultured peripheral nervous system cells. **2020**, 115, 111144		1
119	Biodegradable Polymers for Biomedical Additive Manufacturing. **2020**, 20, 100700		37
118	Effect of cell imprinting on viability and drug susceptibility of breast cancer cells to doxorubicin. **2020**, 113, 119-129		7
117	The self-organized differentiation from MSCs into SMCs with manipulated micro/Nano two-scale arrays on TiO surfaces for biomimetic construction of vascular endothelial substratum. **2020**, 116, 111179		4
116	Fibre guiding scaffolds for periodontal tissue engineering. **2020**, 55, 331-341		14
115	Novel Silicon Titanium Diboride Micropatterned Substrates for Cellular Patterning. *Biomaterials*, **2020**, 244, 119927	15.6	11
114	Harnessing Fiber Diameter-Dependent Effects of Myoblasts Toward Biomimetic Scaffold-Based Skeletal Muscle Regeneration. **2020**, 8, 203		32
113	Engineering anisotropic human stem cell-derived three-dimensional cardiac tissue on-a-chip. *Biomaterials*, **2020**, 256, 120195	15.6	22
112	Blending Gelatin and Cellulose Nanofibrils: Biocomposites with Tunable Degradability and Mechanical Behavior. **2020**, 10,		5
111	Cell-substrate mechanics guide collective cell migration through intercellular adhesion: a dynamic finite element cellular model. **2020**, 19, 1781-1796		6
110	3D Patterning of cells in Magnetic Scaffolds for Tissue Engineering. *Scientific Reports*, **2020**, 10, 2289	4.9	22
109	Cell alignment by smectic liquid crystal elastomer coatings with nanogrooves. **2020**, 108, 1223-1230		20
108	Surface-Anchored Graphene Oxide Nanosheets on Cell-Scale Micropatterned Poly(d,l-lactide--caprolactone) Conduits Promote Peripheral Nerve Regeneration. *ACS Applied Materials & Interfaces*, **2020**, 12, 7915-7930	9.5	28
107	A comparative study of the osteogenic performance between the hierarchical micro/submicro-textured 3D-printed Ti6Al4V surface and the SLA surface. **2020**, 5, 9-16		26
106	Advanced Biomaterials and Processing Methods for Liver Regeneration: State-of-the-Art and Future Trends. **2020**, 9, e1901435		21
105	Controlling cell viability and bacterial attachment through fabricating extracellular matrix-like micro/nanostructured surface on titanium implant. **2020**, 15, 035002		9

104	Cell Interactions with Size-Controlled Colloidal Monolayers: Toward Improved Coatings in Bone Tissue Engineering. **2020**, 36, 1793-1803		5
103	Biomaterials and Microfluidics for Liver Models. **2020**, 1230, 65-86		2
102	Influence of Extracellular Mimicked Hierarchical Nano-Micro-Topography on the Bacteria/Abiotic Interface. **2020**, 12,		5
101	Unique Cancer Migratory Behaviors in Confined Spaces of Microgroove Topography with Acute Wall Angles. *Scientific Reports*, **2020**, 10, 6110	4.9	1
100	Real-time and wide-field mapping of cell-substrate adhesion gap and its evolution via surface plasmon resonance holographic microscopy. **2021**, 174, 112826		8
99	SiO2-Decorated Parylene C Micropillars Designed to Probe Cellular Force. **2021**, 8, 2001897		1
98	Micro-Nano Surface Characterization and Bioactivity of a Calcium Phosphate-Incorporated Titanium Implant Surface. **2021**, 12,		2
97	A biomimetic basement membrane consisted of hybrid aligned nanofibers and microfibers with immobilized collagen IV and laminin for rapid endothelialization. **2021**, 4, 171-189		4
96	Proliferation of mesenchymal stem cells by graphene-attached soft material structure. **2021**, 111, 108229		3
95	Directing osteoblastic cell migration on arrays of nanopillars and nanoholes with different aspect ratios. **2021**, 21, 2206-2216		4
94	Microengineered 3D Tumor Models for Anti-Cancer Drug Discovery in Female-Related Cancers. **2021**, 49, 1943-1972		0
93	Force-sensing micropillar arrays for cell mechanics and mechanobiology. **2021**, 23-42		0
92	Molecular mobility of polyrotaxane-based biointerfaces alters inflammatory responses and polarization in Kupffer cell lines. *Biomaterials Science*, **2021**, 9, 2271-2278	7.4	5
91	Spreading and Migration of Nasopharyngeal Normal and Cancer Cells on Microgratings.. **2021**, 4, 3224-3231		1
90	Graphene-Based Scaffolds for Regenerative Medicine. **2021**, 11,		23
89	Selective Laser Melted Titanium Alloy for Transgingival Components: Influence of Surface Condition on Fibroblast Cell Behavior. **2021**,		1
88	Multiscale Hierarchical Surface Patterns by Coupling Optical Patterning and Thermal Shrinkage. *ACS Applied Materials & Interfaces*, **2021**, 13, 15563-15571	9.5	2
87	Stiffness and Aging in Cardiovascular Diseases: The Dangerous Relationship between Force and Senescence. **2021**, 22,		6

86	A Versatile Surface Modification Method via Vapor-phase Deposited Functional Polymer Films for Biomedical Device Applications. **2021**, 26, 1-14	4
85	Laser Direct Writing via Two-Photon Polymerization of 3D Hierarchical Structures with Cells-Antiadhesive Properties. **2021**, 22,	2
84	Mitigating the foreign body response through immune-instructive biomaterials. **2021**, 12, 100040	3
83	Automatic Actin Filament Quantification and Cell Shape Modeling of Osteoblasts on Charged Ti Surfaces. **2021**, 11, 5689	0
82	Porosity parameters in biomaterial science: Definition, impact, and challenges in tissue engineering. **2021**, 15, 352-373	3
81	Rose petal topography mimicked poly(dimethylsiloxane) substrates for enhanced corneal endothelial cell behavior. **2021**, 126, 112147	1
80	The Influence of the Surface Topographical Cues of Biomaterials on Nerve Cells in Peripheral Nerve Regeneration: A Review. **2021**, 2021, 8124444	2
79	Regulation of Myogenic Differentiation by Topologically Microgrooved Surfaces for Skeletal Muscle Tissue Engineering. **2021**, 6, 20931-20940	4
78	The effects of surface topography modification on hydrogel properties. **2021**, 5, 031509	5
77	Endothelial Cell Migration Regulated by Surface Topography of Poly(caprolactone) Nanofibers. **2021**, 7, 4959-4970	2
76	Differential cellular interactions and responses to ultrathin micropatterned graphene oxide arrays with or without ordered in turn RGD peptide films. **2021**, 561, 150115	1
75	Assessment of structural, biological and drug release properties of electro-sprayed poly lactic acid-dexamethasone coating for biomedical applications. **2021**, 11, 393-406	1
74	Remote-Controlled 3D Porous Magnetic Interface toward High-Throughput Dynamic 3D Cell Culture. **2021**, 7, 4535-4544	0
73	Interconnection of Mesenchymal Stem Cells Using Regularly Arrayed Wrinkle Microstructures Fabricated by Diamond-like Carbon Thin Film Deposition. **2021**, 72, 567-570	
72	Stem cell therapy of myocardial infarction: a promising opportunity in bioengineering. **2020**, 3, 1900182	9
71	Fabrication Method of a High-Density Co-Culture Tumor-Stroma Platform to Study Cancer Progression. **2021**, 2258, 241-255	2
70	Direct Laser Writing. **2013**, 13-65	6
69	Bioprinting of 3D in vitro skeletal muscle models: A review. **2020**, 193, 108794	27

68	ActuAtor, a molecular tool for generating force in living cells: Controlled deformation of intracellular structures.		3
67	Biomimetic hierarchical micro/nano texturing of TiAlV alloys by femtosecond laser processing for the control of cell adhesion and migration. **2020**, 4,		9
66	Life on magnets: stem cell networking on micro-magnet arrays. **2013**, 8, e70416		38
65	Influence of surface geometry on the culture of human cell lines: A comparative study using flat, round-bottom and v-shaped 96 well plates. **2017**, 12, e0186799		7
64	Two-photon polymerization nanolithography technology for fabrication of stimulus-responsive micro/nano-structures for biomedical applications. **2020**, 9, 1118-1136		25
63	Three-dimensional analysis of micro- and nanostructure of biomaterials and cells by method of scanning probe nanotomography. **2018**, 19, 78-87		1
62	Physicochemical Characterization of Five Different Bone Graft Substitutes Used in Periodontal Regeneration: An Study. **2020**, 10, 634-642		1
61	Characterization of BellaGel SmoothFine® Implant Surfaces and Correlation with Capsular Contracture. **2019**, 10, 196-211		2
60	Developing a mechanically matched decellularized spinal cord scaffold for the in situ matrix-based neural repair of spinal cord injury. *Biomaterials*, **2021**, 279, 121192	15.6	9
59	Cell Migration on Engineered Microstructured Surfaces. **2015**, 123-138		
58	Manipulating the Angiogenesis by Inflammation. **2017**, 15, 1-10		
57	The impact of fibronection stripe patterns on the cellular and nuclear morphology of fibroblasts.		
56	Unique Cancer Motility Behaviors in Confined Spaces of Microgroove Topography with Acute Wall Angles.		
55	Antibacterial Performance of Biomimetic Modification of Polymeric Surfaces: Rice-like and Lotus Pattern. **2020**, 137-140		
54	Dynamic Mechanical Cue Facilitate Collective Responses of Crowded Cell Population.		
53	Strategies to Introduce Topographical and Structural Cues in 3D-Printed Scaffolds and Implications in Tissue Regeneration. 2100068		3
52	A Nanodiamond-Based Surface Topography Downregulates the MicroRNA miR6236 to Enhance Neuronal Development and Regeneration. **2021**, 4, 890-902		1
51	Intrinsic Mechanical Cues and Their Impact on Stem Cells and Embryogenesis. **2021**, 9, 761871		4

50	miR6236, a microRNA suppressed by the anisotropic surface topography, regulates neuronal development and regeneration.		
49	Hipster microcarriers: exploring geometrical and topographical cues of non-spherical microcarriers in biomedical applications.. **2021**,		0
48	Design and surface characterization of micropatterned silica coatings for zirconia dental implants.. **2021**, 126, 105060		0
47	The electrochemical potential is a key parameter for cell adhesion and proliferation on carbon surface.. **2021**, 144, 108045		0
46	Micro-textured silicone-based implant fabrication using electrospun fibers as a sacrificial template to suppress fibrous capsule formation.. **2022**, 112687		1
45	Cell Adhesion Assessment Reveals a Higher Force per Contact Area on Fibrous Structures Compared to Flat Substrates.. **2022**,		0
44	Hydrogel-Based Fiber Biofabrication Techniques for Skeletal Muscle Tissue Engineering.. **2022**,		9
43	Microstructural evolution of strontium-zinc-phosphate coating on titanium via changing Zn2+ concentration in phosphate solution for enhanced osteogenic activity. **2022**, 433, 128143		0
42	Biomaterial and Therapeutic Approaches for the Manipulation of Macrophage Phenotype in Peripheral and Central Nerve Repair.. **2021**, 13,		2
41	A Programmable Multifunctional 3D Cancer Cell Invasion Micro Platform.. **2022**, e2107757		0
40	Tantalum nanoparticles enhance the osteoinductivity of multiscale composites based on poly(lactide-co-glycolide) electrospun fibers embedded in a gelatin hydrogel. **2022**, 24, 100804		0
39	Dual surface modification of poly(L-lactide) scaffold achieved by thermal incorporation of aligned nanofiber and click immobilization of VEGF to enhance endothelialization and blood compatibility. **2022**, 589, 152969		1
38	Fabrication of hydrophobic surfaces on Titanium using Micro-EDM exhibiting antibacterial properties. 095440542110609		1
37	Directing Multicellular Organization by Varying the Aspect Ratio of Soft Hydrogel Microwells.. **2022**, e2104649		2
36	Micro- and nanotechnology in biomedical engineering for cartilage tissue regeneration in osteoarthritis.. **2022**, 13, 363-389		1
35	Data_Sheet_1.pdf. **2020**,		
34	Table_1.docx. **2020**,		
33	Bioengineered Hierarchical Bonelike Compartmentalized Microconstructs Using Nanogrooved Microdiscs.. *ACS Applied Materials & Interfaces*, **2022**,	9.5	0

32	Effect of piezoelectricity of nanocomposite electrospun scaffold on cell behavior in bone tissue engineering. *Iranian Polymer Journal (English Edition)*, 1	2.3	0
31	Biomedical applications of three-dimensional bioprinted craniofacial tissue engineering. *Bioengineering and Translational Medicine*,	14.8	1
30	Organic/polymeric antibiofilm coatings for surface modification of medical devices. *International Journal of Polymeric Materials and Polymeric Biomaterials*, 1-42	3	
29	Methanol fixed feeder layers altered the pluripotency and metabolism of bovine pluripotent stem cells. *Scientific Reports*, **2022**, 12,	4.9	0
28	Constructing Nanoscale Topology on the Surface of Microfibers Inhibits Fibroblast Fibrosis. *Advanced Fiber Materials*,	10.9	0
27	Development of chitosan/polyacrylamide composite hydrogel conduit containing synergistic cues of elasticity and topographies for promoting peripheral nerve regeneration. *Biomaterials Science*,	7.4	0
26	A hybrid coating of polydopamine and nano-hydroxyapatite enhances surface properties of 3D printed poly(lactic-co-glycolic acid) scaffolds. *Journal of Materials Science*, **2022**, 57, 13011-13026	4.3	0
25	Toward Hierarchical Assembly of Aligned Cell Sheets into a Conical Cardiac Ventricle Using Microfabricated Elastomers. *Advanced Biology*, 2101165		2
24	Micro/nanoscale surface engineering to enhance hemocompatibility and reduce bacterial adhesion for cardiovascular implants. *Materials Chemistry and Physics*, **2022**, 289, 126445	4.4	1
23	Chapter 10. Curvature Mechanobiology. **2022**, 213-238		0
22	Aligned electrospun poly(l-lactide) nanofibers facilitate wound healing by inhibiting macrophage M1 polarization via the JAK-STAT and NF-Ƀ pathways. **2022**, 20,		2
21	Topographical biointerface regulating cellular functions for bone tissue engineering.		
20	Impact on capsule formation for three different types of implant surface tomography. **2022**, 12,		1
19	Evaluation of drug-eluting nanoparticle coating on magnesium alloy for development of next generation bioabsorbable cardiovascular stents. **2022**, 103878		0
18	Recent advances on gelatin methacrylate hydrogels with controlled microstructures for tissue engineering. **2022**, 221, 91-107		1
17	Peptoid-Loaded Microgels Self-Defensively Inhibit Staphylococcal Colonization of Titanium in a Model of Operating-Room Contamination. 2201662		0
16	Independent Roles of Molecular Mobility and Zeta Potential on Supramolecular Surfaces in the Sequence of RAW264.7 Macrophage Responses. 2200282		0
15	Scaffolds Based on Silk Fibroin with Decellularized Rat Liver Microparticles: Investigation of the Structure, Biological Properties and Regenerative Potential for Skin Wound Healing. **2022**, 14, 2313		0

14	3D printing a biocompatible elastomer for modeling muscle regeneration after volumetric muscle loss. **2022**, 142, 213171	0
13	Selective Topography Directed Cell Adhesion on Spider Silk Surfaces. 2201936	0
12	Engineered cell culture microenvironments for mechanobiology studies of brain neural cells. 10,	1
11	Directionality quantification of in vitro grown dorsal root ganglion neurites using Fast Fourier Transform. **2023**, 109796	0
10	Living and Injectable Porous Hydrogel Microsphere with Paracrine Activity for Cartilage Regeneration. 2207211	1
9	PLLA scaffolds with controlled surface potential and piezoelectricity for enhancing cell adhesion in tissue engineering. **2023**, 621, 156835	0
8	Elastomeric platform with surface wrinkling patterns to control cardiac cell alignment.	0
7	A Three-Dimensional Engineered Cardiac In Vitro Model: Controlled Alignment of Cardiomyocytes in 3D Microphysiological Systems. **2023**, 12, 576	0
6	Functionalization of the Implant Surface Made of NiTi Shape Memory Alloy. **2023**, 16, 1609	0
5	Cellular Contact Guidance on Liquid Crystalline Networks with Anisotropic Roughness.	0
4	The adaptation of bovine embryonic stem cells to the changes of feeder layers. **2023**, 59, 85-99	0
3	PIP2 Alteration Caused by Elastic Modulus and Tropism of Electrospun Scaffolds Facilitates Altered BMSCs Proliferation and Differentiation. 2212272	0
2	Combining atomic force microscopy with complementary techniques for multidimensional single-cell analysis.	0
1	Encapsulation of natural materials. **2023**, 39-92	0