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Abbreviations

ASTM	American Society for Testing and Materials
316L SS	Low Carbon Stainless Steel type 316
DC	Direct Current
Ta	Tantalum
SBF	Simulated Body Fluid
CNC	Computer Numerical Controller
EDM	Electrical Discharge Machining
SCCM	Standard cubic centimetres per minute
MFC	Mass Flow Controller
DCMS	Direct Current Magnetron Sputtering System
DOE	Design of Experiment
OM	Optical Microscopy
OES	Optical Emission Spectroscopy
SEM	Scanning Electron Microscopy
EDS	Energy Dispersive X-Ray Spectroscopy
BT-SEM	Bench Top Scanning Electron Microscopy
AFM	Atomic Force Microscopy
XPS	X-ray Photoelectron Spectroscopy
SPM	Scanning Probe Microscopy
ICP-MS	Inductive Coupled Plasma-Mass Spectroscopy
CAM	Contact Angle Measurement
WEDM	Wire Electrical Discharge Machining
PVD	Physical Vapor Deposition
COF	Coefficient of Friction
min	Minute
THA	Total Hip Arthroplasty

OCP	Open Circuit Potential
EIS	Electrochemical Impedance Spectroscopy
PD	Potentiodynamic Polarization
SHE	Standard Hydrogen Electrode
CPE	Constant Phase Element
CPS	Counts Per Second
EEC	Equivalent Electrical Circuit
FBS	Fetal Bovine Serum
PBS	Phosphate-buffered saline
CA	Cell Adhesion
CP	Cell Proliferation
DAPI	4′,6-diamidino-2-phenylindole

Symbols

$K_2HPO_4.6H_2O$	Di-potassium hydrogen phosphate hexahydrate
$MgCl_2.6H_2O$	Magnesium dichloride hexahydrate
$(CH_2OH)_3. CNH_2$	Tris (Hydroxymethyl) amino methane
NaCl	Sodium Chloride
KCl	Potassium chloride
$NaHCO_3$	Sodium bicarbonate
Na_2SO_4	Sodium Sulfate
$CaCl_2$	Calcium chloride
Ta_2O_5	Tantalum oxide
R_q	Root Mean Square roughness
$\bar{z}$	Arithmetic average height
F_n	Normal Force
F_t	Tangential Force
mN	Micro Newton
µm	Micrometer
Ag/Ag. Cl	Silver Chloride
Pt	Platinum
W	Warburg Impedance
Hz	Hertz
β_a	Anodic Tafel Constant
β_c	Cathodic Tafel Constant
Rp	Polarization Resistance
E_{corr}	Corrosion Potential
i_{corr}	Corrosion Current Density
wt%	Weight Percentage
µL/s	Microliter Per Second