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**List of Abbreviations**

| | | |
|---|---|---|
| μg | = | microgram |
| μL | = | microlitre |
| μm | = | micrometre |
| μmol | = | micromole |
| μV | = | microvolt |
| ANOVA | = | Analysis of Varian |
| AOAC | = | Association of Agriculture Chemists |
| AOT | = | bis-(2ethylhexyl)sodium sulfosuccinate) |
| BSTR | = | batch stirred-tank reactors |
| C | = | degree celsius |
| $C_{\mathrm{E}}$ | = | enzyme concentration |
| cm | = | centimetre |
| CRD | = | Completely Randomized Design |
| $C_{\mathrm{S}}$ | = | substrate concentration |
| CSTR | = | continuous stirred-tank reactors |
| CVL | = | *Chromobacterium viscosum* lipase |
| DAG | = | diacylglycerols |
| DHA | = | docosahexaenoic acid |
| DMRT | = | Duncan's Multiple Range Test |
| E | = | enzyme |
| EPA | = | eicosapentaenoic acid |
| ES | = | enzyme-substrate complex |
| FBR | = | fluidized-bed reactors |
| FFA | = | free fatty acids |
| FID | = | flame ionization detector |
| g | = | gram |
| GC | = | gas chromatography |

## List of Abbreviations (Continue)

| | | |
|---|---|---|
| GRAS | = | generally recognized as safe |
| h | = | hour |
| HDPE | = | high density polyethylene |
| ID | = | internal diameter |
| IM-PS | = | immobilized lipase PS |
| JAOCS | = | Journal of the American Oil Chemists' Society |
| $k_1$ | = | first order rate constant |
| $k_{-1}$ | = | first order rate constant for the decomposition of the ES complex |
| $k_{ads}$ | = | second order adsorption rate constant |
| $k_{cat}$ | = | maximum number of substrate molecules reacting per active site per second |
| $k_{des}$ | = | first order desorption rate constant |
| kg | = | kilogram |
| *Km* | = | Michaelis constant |
| L | = | litre |
| M | = | molarity |
| m | = | metre |
| MAG | = | monoacylglycerols |
| mg | = | milligram |
| min | = | minute |
| mL | = | millilitre |
| mm | = | milimetre |
| mM | = | milimolar |
| mol | = | mole |
| MR | = | membrane reactor |
| mV | = | milivolt |
| MW | = | molecular weight |

**List of Abbreviations (Continue)**

| | | |
|---|---|---|
| *N* | = | Normality |
| nm | = | nanometre |
| OD | = | optical density |
| OOO | = | triolein |
| P | = | product |
| PBR | = | packed-bed reactor |
| PCL | = | *Pseudomonas cepacia* lipase |
| PFAD | = | palm oil fatty acid distillate |
| PFL | = | *Pseudomonas fluorescens* lipase |
| PLO | = | 1-palmitoyl-2-linoleoyl-3-oleoyl-glycerol |
| PLP | = | 1,3-dipalmitoyl-2-linoleoyl-glycerol |
| PLSt | = | 1-palmitoyl-2-linoleoyl-3-stearoyl-glycerol |
| PMF | = | palm midfraction |
| POO | = | 1-palmitoyl-2,3-dioleoyl-glycerol |
| POP | = | 1,3-dipalmitoyl-2-oleoyl-glycerol |
| POSt | = | 1-palmitoyl-2-oleoyl-3-stearoyl-glycerol |
| PP | = | polypropylene |
| PPP | = | tripalmitin |
| PVDF | = | polyvinylidene fluoride |
| Q | = | free fatty acid |
| rpm | = | revolutions per minute |
| s | = | second |
| S | = | substrate |
| *sn* | = | stereospecific numbering |
| SPSS | = | Statistical Package for Social Sciences |
| TAG | = | triacylglycerols |
| Tc | = | critical temperature |
| TLC | = | thin-layer chromatography |

**List of Abbreviations (Continue)**

| | | |
|---|---|---|
| *tot* | = | total amount of enzyme |
| U | = | unit of enzyme |
| V | = | velocity |
| v/v | = | volume by volume |
| *Vmax* | = | maximum velocity |
| w/v | = | weight by volume |
| wt | = | weight |