



Figure 1.3 Chemical structure of atorvastatin

Table 1.1. The chemical data of glimepiride

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| IUPAC name | 3-ethyl-4-methyl- <i>N</i> -(4-[<i>N</i> -((1 <i>r</i> ,4 <i>r</i>)-4-methylcyclohexylcarbamoyl)sulfamoyl]phenethyl)-2-oxo-2,5-dihydro-1 <i>H</i> -pyrrole-1-carboxamid |
| Chemical formula | C ₂₄ H ₃₄ N ₄ O ₅ S |
| Molecular weight | 490.617 g/mol |
| Melting point | 204-207 °C |
| Appearance | White to yellowish crystalline powder |
| Storage | 15-30 °C |
| pK _a | 5.1 |
| Solubility | Soluble in DMSO (>10 mg/ml), water (<1 mg/ml at 25 °C), and ethanol (<1 mg/ml at 25 °C). |

Table 1.2. The chemical data for atorvastatin

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| IUPAC name | (3 <i>R</i> ,5 <i>R</i>)-7-[2-(4-fluorophenyl)-3-phenyl-4-(phenylcarbamoyl)-5-propan-2-ylpyrrol-1-yl]-3,5-dihydroxyheptanoic acid |
| Chemical formula | C ₃₃ H ₃₅ FN ₂ O ₅ |
| Molecular weight | 558.64 g/mol |
| Melting point | 156 °C |
| Appearance | White to off-white crystalline powder |
| pK _a | 4.46 |
| Solubility | very slightly soluble in distilled water and acetonitrile; slightly soluble in ethanol; and freely soluble in methanol |