



**Figure 1.3 Chemical structure of atorvastatin**

Table 1.1. The chemical data of glimepiride

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 <sub>24</sub> H <sub>34</sub> N <sub>4</sub> O <sub>5</sub> S
Molecular weight	490.617 g/mol
Melting point	204-207 °C
Appearance	White to yellowish crystalline powder
Storage	15-30 °C
pK <sub>a</sub>	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

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 <sub>33</sub> H <sub>35</sub> FN <sub>2</sub> O <sub>5</sub>
Molecular weight	558.64 g/mol
Melting point	156 °C
Appearance	White to off-white crystalline powder
pK <sub>a</sub>	4.46
Solubility	very slightly soluble in distilled water and acetonitrile; slightly soluble in ethanol; and freely soluble in methanol