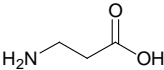
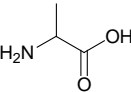
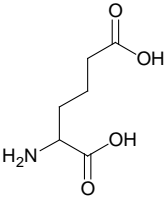
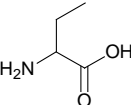
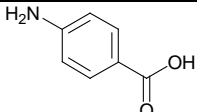
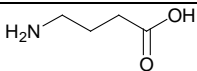
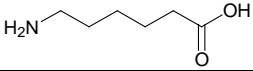
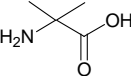
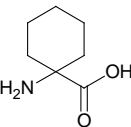
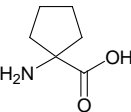
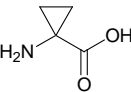
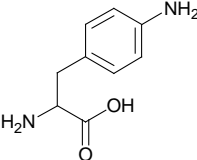
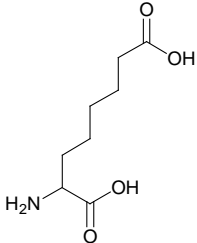
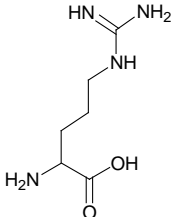
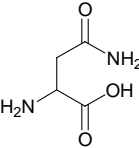
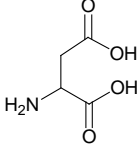
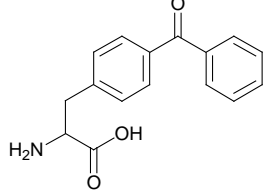
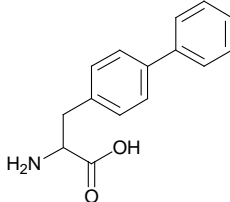
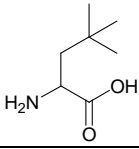
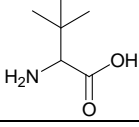
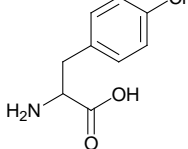
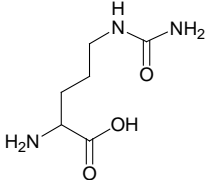
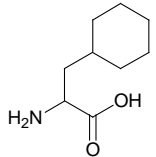
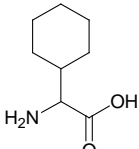
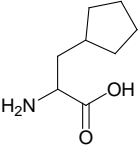
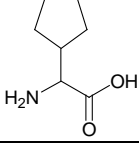
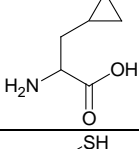
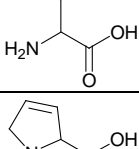
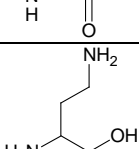
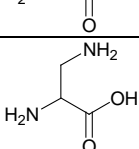
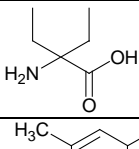
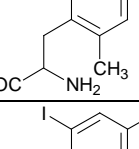
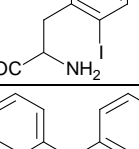
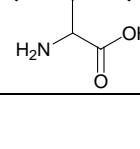

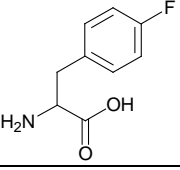
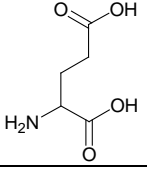
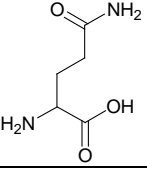
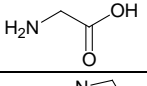
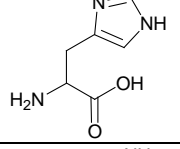
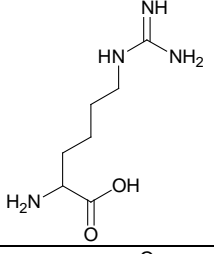
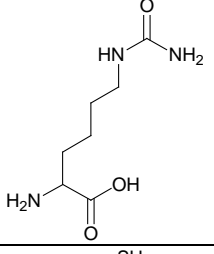
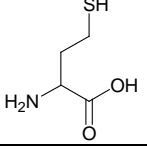
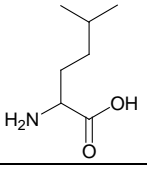
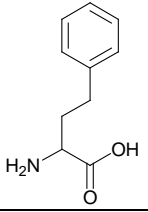


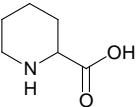
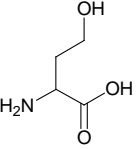
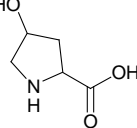
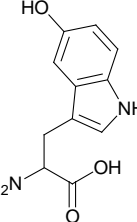
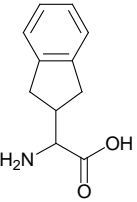
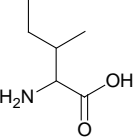
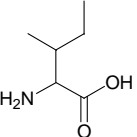
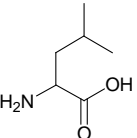
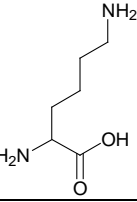
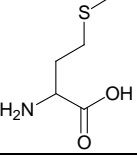
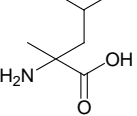
## Amino Acids

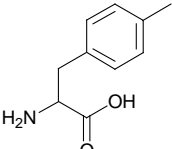
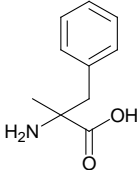
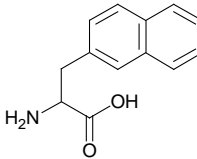
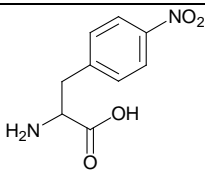
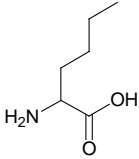
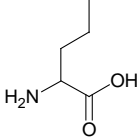
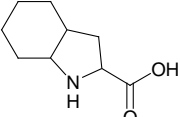
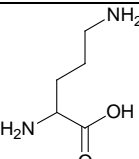
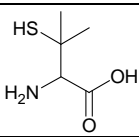
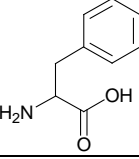
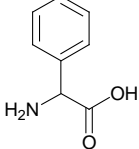
SYMBOL	AMINO ACID	STRUCTURE	FORMULA	MOL WT	MW-H <sub>2</sub> O
<b>βAla</b>	<b>β-Alanine</b>		<b>C<sub>3</sub>H<sub>7</sub>NO<sub>2</sub></b>	<b>89.09</b>	<b>71.07</b>
<b>Ala</b>	<b>Alanine</b>		<b>C<sub>3</sub>H<sub>7</sub>NO<sub>2</sub></b>	<b>89.09</b>	<b>71.07</b>
<b>Aad</b>	<b>Aminoadipic acid</b>		<b>C<sub>6</sub>H<sub>11</sub>NO<sub>4</sub></b>	<b>161.16</b>	<b>143.14</b>
<b>Abu</b>	<b>2-Aminobutyric acid</b>		<b>C<sub>4</sub>H<sub>9</sub>NO<sub>2</sub></b>	<b>103.12</b>	<b>85.10</b>
<b>4-Abz</b>	<b>4-Aminobenzoic acid</b>		<b>C<sub>7</sub>H<sub>7</sub>NO<sub>2</sub></b>	<b>137.14</b>	<b>119.10</b>
<b>γAbu</b>	<b>4-Aminobutyric acid</b>		<b>C<sub>4</sub>H<sub>9</sub>NO<sub>2</sub></b>	<b>103.12</b>	<b>85.10</b>
<b>εAhx</b>	<b>6-Aminocaproic acid</b>		<b>C<sub>6</sub>H<sub>13</sub>NO<sub>2</sub></b>	<b>131.17</b>	<b>113.15</b>
<b>Aib</b>	<b>α-Aminoisobutyric acid</b>		<b>C<sub>4</sub>H<sub>9</sub>NO<sub>2</sub></b>	<b>103.12</b>	<b>85.10</b>
<b>Ach</b>	<b>1-aminocyclohexane-1-carboxylic acid</b>		<b>C<sub>7</sub>H<sub>13</sub>NO<sub>2</sub></b>	<b>143.18</b>	<b>125.16</b>
<b>Acpe</b>	<b>1-aminocyclopentane-1-carboxylic acid</b>		<b>C<sub>6</sub>H<sub>11</sub>NO<sub>2</sub></b>	<b>129.16</b>	<b>111.14</b>
<b>Acpp</b>	<b>1-aminocyclopropane-1-carboxylic acid</b>		<b>C<sub>4</sub>H<sub>7</sub>NO<sub>2</sub></b>	<b>101.10</b>	<b>83.08</b>
<b>Phe(4-NH<sub>2</sub>)</b>	<b>4-Aminophenylalanine</b>		<b>C<sub>9</sub>H<sub>12</sub>N<sub>2</sub>O<sub>2</sub></b>	<b>180.20</b>	<b>162.18</b>
<b>Asu</b>	<b>α-Aminosuberic acid</b>		<b>C<sub>8</sub>H<sub>15</sub>NO<sub>4</sub></b>	<b>189.21</b>	<b>171.19</b>

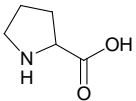
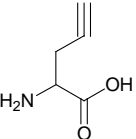
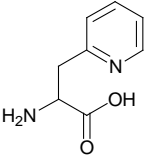
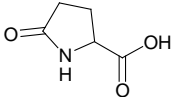
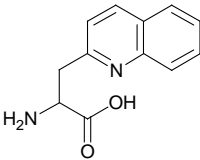
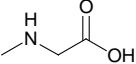
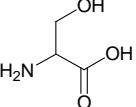
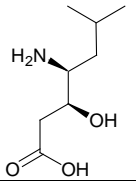
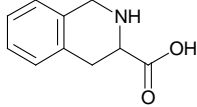
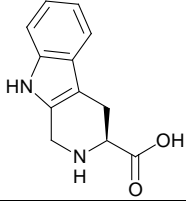
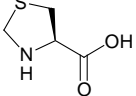
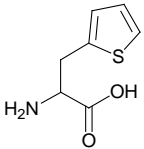
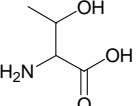
<b>Arg</b>	<b>Arginine</b>		<b>C<sub>6</sub>H<sub>14</sub>N<sub>4</sub>O<sub>2</sub></b>	<b>174.20</b>	<b>156.18</b>
<b>Asn</b>	<b>Asparagine</b>		<b>C<sub>4</sub>H<sub>8</sub>N<sub>2</sub>O<sub>3</sub></b>	<b>132.12</b>	<b>114.10</b>
<b>Asp</b>	<b>Aspartic Acid</b>		<b>C<sub>4</sub>H<sub>7</sub>NO<sub>4</sub></b>	<b>133.10</b>	<b>115.08</b>
<b>Bpa</b>	<b>4-Benzoylphenylalanine</b>		<b>C<sub>16</sub>H<sub>15</sub>NO<sub>3</sub></b>	<b>269.30</b>	<b>251.28</b>
<b>Bip</b>	<b>4,4'-Biphenylalanine</b>		<b>C<sub>15</sub>H<sub>15</sub>NO<sub>2</sub></b>	<b>241.29</b>	<b>233.27</b>
<b>tBuAla</b>	<b>β-t-Butylalanine</b>		<b>C<sub>7</sub>H<sub>15</sub>NO<sub>2</sub></b>	<b>145.20</b>	<b>127.18</b>
<b>Tle</b>	<b>2-t-Butylglycine</b>		<b>C<sub>6</sub>H<sub>13</sub>NO<sub>2</sub></b>	<b>131.17</b>	<b>113.15</b>
<b>Phe(pCl)</b>	<b>4-Chlorophenylalanine</b>		<b>C<sub>9</sub>H<sub>10</sub>ClNO<sub>2</sub></b>	<b>199.63</b>	<b>181.63</b>
<b>Cit</b>	<b>Citrulline</b>		<b>C<sub>6</sub>H<sub>13</sub>N<sub>3</sub>O<sub>3</sub></b>	<b>175.19</b>	<b>157.17</b>
<b>Cha</b>	<b>β-Cyclohexylalanine</b>		<b>C<sub>9</sub>H<sub>17</sub>NO<sub>2</sub></b>	<b>171.24</b>	<b>153.22</b>

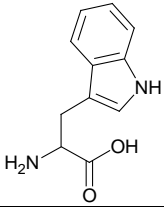
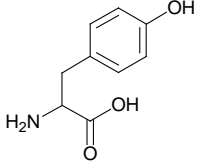
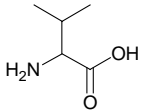
<b>Chg</b>	<b><math>\alpha</math>-Cyclohexylglycine</b>		<b>C<sub>8</sub>H<sub>15</sub>NO<sub>2</sub></b>	<b>157.21</b>	<b>139.19</b>
<b>Cpa</b>	<b><math>\beta</math>-Cyclopentylalanine</b>		<b>C<sub>8</sub>H<sub>15</sub>NO<sub>2</sub></b>	<b>157.21</b>	<b>139.19</b>
<b>Cpg</b>	<b>Cyclopentylglycine</b>		<b>C<sub>7</sub>H<sub>13</sub>NO<sub>2</sub></b>	<b>143.18</b>	<b>125.16</b>
<b>Cpr</b>	<b><math>\beta</math>-Cyclopropylalanine</b>		<b>C<sub>6</sub>H<sub>11</sub>NO<sub>2</sub></b>	<b>129.16</b>	<b>111.14</b>
<b>Cys</b>	<b>Cysteine</b>		<b>C<sub>3</sub>H<sub>7</sub>NO<sub>2</sub>S</b>	<b>121.16</b>	<b>103.14</b>
<b><math>\Delta</math>-Pro</b>	<b>3,4-Dehydroproline</b>		<b>C<sub>5</sub>H<sub>7</sub>NO<sub>2</sub></b>	<b>113.11</b>	<b>95.09</b>
<b>Dab</b>	<b><math>\alpha</math>,<math>\gamma</math>-Diaminobutyric acid</b>		<b>C<sub>4</sub>H<sub>10</sub>N<sub>2</sub>O<sub>2</sub></b>	<b>118.13</b>	<b>100.11</b>
<b>Dap</b>	<b><math>\alpha</math>, <math>\beta</math>-Diaminopropionic acid</b>		<b>C<sub>3</sub>H<sub>8</sub>N<sub>2</sub>O<sub>2</sub></b>	<b>104.11</b>	<b>86.09</b>
<b>Deg</b>	<b>Diethylglycine</b>		<b>C<sub>6</sub>H<sub>13</sub>NO<sub>2</sub></b>	<b>131.17</b>	<b>113.15</b>
<b>Dmt</b>	<b>2',6'-Dimethyltyrosine</b>		<b>C<sub>11</sub>H<sub>15</sub>NO<sub>3</sub></b>	<b>209.24</b>	<b>191.22</b>
<b>Tyr(3,5-di-I)</b>	<b>3,5-Diiodotyrosine</b>		<b>C<sub>9</sub>H<sub>9</sub>I<sub>2</sub>NO<sub>3</sub></b>	<b>432.98</b>	<b>414.96</b>
<b>Dpa</b>	<b>3,3-Diphenylalanine</b>		<b>C<sub>15</sub>H<sub>15</sub>NO<sub>2</sub></b>	<b>241.29</b>	<b>223.27</b>

<b>Phe(4-F)</b>	<b>4-Fluorophenylalanine</b>		<b>C<sub>9</sub>H<sub>10</sub>FNO<sub>2</sub></b>	<b>183.18</b>	<b>165.16</b>
<b>Glu</b>	<b>Glutamic acid</b>		<b>C<sub>5</sub>H<sub>9</sub>NO<sub>4</sub></b>	<b>147.13</b>	<b>129.11</b>
<b>Gln</b>	<b>Glutamine</b>		<b>C<sub>5</sub>H<sub>10</sub>N<sub>2</sub>O<sub>3</sub></b>	<b>146.14</b>	<b>128.12</b>
<b>Gly</b>	<b>Glycine</b>		<b>C<sub>2</sub>H<sub>5</sub>NO<sub>2</sub></b>	<b>75.07</b>	<b>57.05</b>
<b>His</b>	<b>Histidine</b>		<b>C<sub>6</sub>H<sub>9</sub>N<sub>3</sub>O<sub>2</sub></b>	<b>155.15</b>	<b>137.13</b>
<b>Har</b>	<b>Homoarginine</b>		<b>C<sub>7</sub>H<sub>16</sub>N<sub>4</sub>O<sub>2</sub></b>	<b>188.23</b>	<b>170.21</b>
<b>Hci</b>	<b>Homocitrulline</b>		<b>C<sub>7</sub>H<sub>15</sub>N<sub>3</sub>O<sub>3</sub></b>	<b>189.21</b>	<b>171.19</b>
<b>Hcy</b>	<b>Homocysteine</b>		<b>C<sub>4</sub>H<sub>9</sub>NO<sub>2</sub>S</b>	<b>135.19</b>	<b>117.17</b>
<b>Hle</b>	<b>Homoleucine</b>		<b>C<sub>7</sub>H<sub>15</sub>NO<sub>2</sub></b>	<b>145.20</b>	<b>127.18</b>
<b>Hph</b>	<b>Homophenylalanine</b>		<b>C<sub>10</sub>H<sub>13</sub>NO<sub>2</sub></b>	<b>179.22</b>	<b>161.20</b>

<b>Hpr</b>	<b>Homoproline</b>		<b>C<sub>6</sub>H<sub>11</sub>NO<sub>2</sub></b>	<b>129.16</b>	<b>111.14</b>
<b>hSer</b>	<b>Hmoserine</b>		<b>C<sub>4</sub>H<sub>9</sub>NO<sub>3</sub></b>	<b>119.12</b>	<b>101.10</b>
<b>Hyp</b>	<b>Hydroxyproline</b>		<b>C<sub>5</sub>H<sub>9</sub>NO<sub>3</sub></b>	<b>131.13</b>	<b>113.11</b>
<b>Trp(5-OH)</b>	<b>5-Hydroxytryptophan</b>		<b>C<sub>11</sub>H<sub>12</sub>N<sub>2</sub>O<sub>3</sub></b>	<b>220.22</b>	<b>202.20</b>
<b>Igl</b>	<b>Indanylglycine</b>		<b>C<sub>11</sub>H<sub>13</sub>NO<sub>2</sub></b>	<b>191.23</b>	<b>173.21</b>
<b>allo-Ile</b>	<b>Allo-Isoleucine</b>		<b>C<sub>6</sub>H<sub>13</sub>NO<sub>2</sub></b>	<b>131.17</b>	<b>113.15</b>
<b>Ile</b>	<b>Isoleucine</b>		<b>C<sub>6</sub>H<sub>13</sub>NO<sub>2</sub></b>	<b>131.17</b>	<b>113.15</b>
<b>Leu</b>	<b>Leucine</b>		<b>C<sub>6</sub>H<sub>13</sub>NO<sub>2</sub></b>	<b>131.17</b>	<b>113.15</b>
<b>Lys</b>	<b>Lysine</b>		<b>C<sub>6</sub>H<sub>14</sub>N<sub>2</sub>O<sub>2</sub></b>	<b>146.19</b>	<b>128.17</b>
<b>Met</b>	<b>Methionine</b>		<b>C<sub>5</sub>H<sub>11</sub>NO<sub>2</sub>S</b>	<b>149.21</b>	<b>131.19</b>
<b>α-Me-Leu</b>	<b>α-Methylleucine</b>		<b>C<sub>7</sub>H<sub>15</sub>NO<sub>2</sub></b>	<b>145.20</b>	<b>127.18</b>

<b>Phe(4-Me)</b>	<b>4-Methylphenylalanine</b>		<b>C<sub>10</sub>H<sub>13</sub>NO<sub>2</sub></b>	<b>179.22</b>	<b>161.20</b>
<b>α-Me-Phe</b>	<b>α-Methylphenylalanine</b>		<b>C<sub>10</sub>H<sub>13</sub>NO<sub>2</sub></b>	<b>179.22</b>	<b>161.20</b>
<b>Ala(2-naphthyl)</b>	<b>3-(2-Naphthyl)-alanine</b>		<b>C<sub>13</sub>H<sub>13</sub>NO<sub>2</sub></b>	<b>215.25</b>	<b>197.23</b>
<b>Phe(4-NO<sub>2</sub>)</b>	<b>4-Nitrophenylalanine</b>		<b>C<sub>9</sub>H<sub>10</sub>N<sub>2</sub>O<sub>4</sub></b>	<b>210.19</b>	<b>192.17</b>
<b>Nle</b>	<b>Norleucine</b>		<b>C<sub>6</sub>H<sub>13</sub>NO<sub>2</sub></b>	<b>131.17</b>	<b>113.15</b>
<b>Nva</b>	<b>Norvaline</b>		<b>C<sub>5</sub>H<sub>11</sub>NO<sub>2</sub></b>	<b>117.15</b>	<b>99.13</b>
<b>Oic</b>	<b>Octahydroindole-2-carboxylic acid</b>		<b>C<sub>9</sub>H<sub>15</sub>NO<sub>2</sub></b>	<b>169.22</b>	<b>151.20</b>
<b>Orn</b>	<b>Ornithine</b>		<b>C<sub>5</sub>H<sub>12</sub>N<sub>2</sub>O<sub>2</sub></b>	<b>132.16</b>	<b>114.14</b>
<b>Pen</b>	<b>Penicillamine</b>		<b>C<sub>5</sub>H<sub>11</sub>NO<sub>2</sub>S</b>	<b>149.21</b>	<b>131.19</b>
<b>Phe</b>	<b>Phenylalanine</b>		<b>C<sub>9</sub>H<sub>11</sub>NO<sub>2</sub></b>	<b>165.19</b>	<b>147.17</b>
<b>Phg</b>	<b>Phenylglycine</b>		<b>C<sub>8</sub>H<sub>9</sub>NO<sub>2</sub></b>	<b>151.16</b>	<b>133.14</b>

Pro	Proline		$C_5H_9NO_2$	115.13	97.11
Pra	Propargylglycine		$C_5H_7NO_2$	113.11	95.09
Ala(2'-pyridyl)	3-(2'-Pyridyl)-alanine		$C_8H_{10}N_2O_2$	166.18	148.16
Pyr, Glp	Pyroglutamine		$C_5H_7NO_3$	129.11	111.09
Ala(2'-quinoyl)	3-(2'-Quinoyl)-alanine		$C_{12}H_{12}N_2O_2$	216.24	198.22
Sar	Sarcosine		$C_3H_7NO_2$	89.09	71.07
Ser	Serine		$C_3H_7NO_3$	105.09	87.07
Sta	Statine		$C_8H_{17}NO_3$	175.23	157.21
Tic	1,2,3,4-Tetrahydroisoquinoline-3-carboxylic acid		$C_{10}H_{11}NO_2$	177.20	159.18
Tpi	1,2,3,4-Tetrahydronorhorman-3-carboxylic acid		$C_{12}H_{12}N_2O_2$	216.24	198.22
Thz	Thiaproline		$C_4H_7NO_2S$	133.17	115.15
Thi	$\beta$ -(2-Thienyl)alanine		$C_7H_9NO_2S$	171.22	153.20
Thr	Threonine		$C_4H_9NO_3$	119.12	101.10

<b>Trp</b>	<b>Tryptophan</b>		<b>C<sub>11</sub>H<sub>12</sub>N<sub>2</sub>O<sub>2</sub></b>	<b>204.23</b>	<b>186.21</b>
<b>Tyr</b>	<b>Tyrosine</b>		<b>C<sub>9</sub>H<sub>11</sub>NO<sub>3</sub></b>	<b>181.19</b>	<b>163.17</b>
<b>Val</b>	<b>Valine</b>		<b>C<sub>5</sub>H<sub>11</sub>NO<sub>2</sub></b>	<b>117.15</b>	<b>99.13</b>