

**Table 1**

[ncbi.nlm.nih.gov/pmc/articles/PMC3832175/table/T1](https://ncbi.nlm.nih.gov/pmc/articles/PMC3832175/table/T1)

<b>Pomegranate Phytochemicals</b>	<b>Formula</b>	<b>Molecular weight (MW)</b>	<b>Plant Part</b>
<b><i>Ellagitannins and Gallotannins</i></b>			
2,3-(S)-HHDP-D-glucose <sup>a</sup>	C <sub>20</sub> H <sub>18</sub> O <sub>14</sub>	482.35	Bark, peel
Castalagin	C <sub>41</sub> H <sub>26</sub> O <sub>26</sub>	934.63	Bark
Casuarin	C <sub>34</sub> H <sub>24</sub> O <sub>22</sub>	784.54	Bark
Casuarinin		936.65	Bark, pericarp
Corilagin	C <sub>27</sub> H <sub>22</sub> O <sub>18</sub>	634.45	Fruit, leaves, pericarp
Cyclic 2,4:3,6-bis(4,4',5,5',6,6'-hexahydroxy [1,1'-biphenyl]- 2,2'-dicarboxylate) 1-(3,4,5-trihydroxybenzoate) b-D-Glucose	C <sub>41</sub> H <sub>28</sub> O <sub>26</sub>	936.65	leaves
Granatin A	C <sub>34</sub> H <sub>24</sub> O <sub>23</sub>	800.54	Pericarp
Granatin B	C <sub>34</sub> H <sub>28</sub> O <sub>27</sub>	952.64	Peel
Pedunculagin	C <sub>34</sub> H <sub>24</sub> O <sub>22</sub>	784.52	Bark, pericarp
Punicacortein A	C <sub>27</sub> H <sub>22</sub> O <sub>18</sub>	634.45	Bark
Punicacortein B	C <sub>27</sub> H <sub>22</sub> O <sub>18</sub>	634.45	Bark
Punicafolin	C <sub>41</sub> H <sub>30</sub> O <sub>26</sub>	938.66	Leaves
Punigluconin	C <sub>34</sub> H <sub>26</sub> O <sub>23</sub>	802.56	Bark
Strictinin	C <sub>27</sub> H <sub>22</sub> O <sub>18</sub>	634.45	Leaves
Tellimagrandin I	C <sub>34</sub> H <sub>26</sub> O <sub>22</sub>	786.56	Leaves, pericarp
Tercatain	C <sub>34</sub> H <sub>26</sub> O <sub>22</sub>	786.56	Leaves
2-O-galloyl-4,6(S,S) gallagoyl-D-glucose	C <sub>41</sub> H <sub>26</sub> O <sub>26</sub>	934.63	Bark
5-O-galloyl-punicacortein D	C <sub>54</sub> H <sub>34</sub> O <sub>34</sub>	1222.8	Leaves
Punicacortein C	C <sub>47</sub> H <sub>26</sub> O <sub>30</sub>	1070.7	Bark

<b>Pomegranate Phytochemicals</b>	<b>Formula</b>	<b>Molecular weight (MW)</b>	<b>Plant Part</b>
Punicacortein D	C <sub>47</sub> H <sub>26</sub> O <sub>30</sub>	1070.7	Bark, heartwood
Punicalin	C <sub>34</sub> H <sub>22</sub> O <sub>22</sub>	782.53	Bark, pericarp
Punicalagin	C <sub>48</sub> H <sub>28</sub> O <sub>30</sub>	1084.7	Bark, pericarp, peel
Terminalin/gallayldilacton	C <sub>28</sub> H <sub>20</sub> O <sub>16</sub>	602.37	Pericarp
<b><i>Ellagic Acid Derivatives</i></b>			
Ellagic acid	C <sub>14</sub> H <sub>6</sub> O <sub>8</sub>	302.19	Fruit, pericarp, bark
Ellagic acid, 3,3'-di-O-methyl	C <sub>16</sub> H <sub>10</sub> O <sub>8</sub>	330.25	Seed
Ellagic acid, 3,3', 4'-tri-O-methyl	C <sub>17</sub> H <sub>12</sub> O <sub>8</sub>	344.27	Seed
Ellagic acid, 3'-O-methyl-3, 4-methylene	C <sub>16</sub> H <sub>8</sub> O <sub>8</sub>	328.23	Heartwood
Eschweilenol C	C <sub>20</sub> H <sub>16</sub> O <sub>12</sub>	448.33	Heartwood
Diellagic acid rhamnosyl(1-4) glucoside	C <sub>40</sub> H <sub>30</sub> O <sub>24</sub>	894.65	Heartwood
<b><i>Catechin and Procyanidins</i></b>			
(-)-Catechin	C <sub>15</sub> H <sub>14</sub> O <sub>6</sub>	290.27	Juice
Catechin-(4,8)-gallocatechin	C <sub>30</sub> H <sub>26</sub> O <sub>13</sub>	594.52	Peel
Gallocatechin	C <sub>15</sub> H <sub>14</sub> O <sub>7</sub>	306.27	Peel
Gallocatechin-(4,8)-catechin	C <sub>30</sub> H <sub>26</sub> O <sub>13</sub>	594.52	Peel
Gallocatechin-(4,8)-gallocatechin	C <sub>30</sub> H <sub>26</sub> O <sub>14</sub>	610.52	Peel
Procyanidin B1	C <sub>30</sub> H <sub>26</sub> O <sub>12</sub>	578.52	Juice
Procyanidin B2	C <sub>30</sub> H <sub>26</sub> O <sub>12</sub>	578.52	Juice
<b><i>Anthocyanins and Anthocyanidins</i></b>			
Cyanidin	C <sub>15</sub> H <sub>11</sub> O <sub>6</sub>	287.24	Peel
Cyanidin-3-glucoside	C <sub>21</sub> H <sub>21</sub> O <sub>11</sub>	449.38	Juice
Cyanidin-3,5-diglucoside	C <sub>27</sub> H <sub>31</sub> O <sub>16</sub>	611.52	Juice

<b>Pomegranate Phytochemicals</b>	<b>Formula</b>	<b>Molecular weight (MW)</b>	<b>Plant Part</b>
(Continued)			
Cyanidin-3-rutinoside	C <sub>27</sub> H <sub>31</sub> O <sub>15</sub>	595.53	Juice
Delphinidin	C <sub>15</sub> H <sub>11</sub> O <sub>7</sub>	303.24	Juice
Delphinidin-3-glucoside	C <sub>21</sub> H <sub>21</sub> O <sub>12</sub>	465.38	Juice
Delphinidin 3, 5-diglucoside	C <sub>27</sub> H <sub>31</sub> O <sub>17</sub>	627.52	Juice
Pelargonidin 3-glucoside	C <sub>21</sub> H <sub>21</sub> O <sub>10</sub>	433.38	Juice
Pelargonidin 3,5-diglucoside	C <sub>27</sub> H <sub>31</sub> O <sub>15</sub>	595.53	Juice
Flavonols			
Apigenin-4'-O-β-D-glucoside	C <sub>21</sub> H <sub>20</sub> O <sub>11</sub>	448.32	Leaves
Kaempferol	C <sub>15</sub> H <sub>10</sub> O <sub>6</sub>	286.24	Peel, fruit
Luteolin	C <sub>15</sub> H <sub>10</sub> O <sub>6</sub>	286.24	Peel, fruit
Luteolin-3'-O-β-D-glucoside	C <sub>21</sub> H <sub>20</sub> O <sub>10</sub>	432.11	Leaves
Luteolin-4'-O-β-D-glucoside	C <sub>21</sub> H <sub>20</sub> O <sub>10</sub>	432.11	Leaves
Luteolin-3'-O-β-D-Xyloside	C <sub>21</sub> H <sub>18</sub> O <sub>10</sub>	418.09	Leaves
Myricetin	C <sub>15</sub> H <sub>10</sub> O <sub>8</sub>	318.04	Fruit
Quercetin	C <sub>15</sub> H <sub>10</sub> O <sub>7</sub>	302.04	Peel, fruit
Quercimeritrin	C <sub>21</sub> H <sub>20</sub> O <sub>12</sub>	464.38	Fruit
Quercetin-3-O-rutinoside	C <sub>27</sub> H <sub>30</sub> O <sub>16</sub>	610.52	Fruit
Quercetin-3,4'-dimethyl ether 7-O-α-L-arabinofuranosyl-(1-6)-β-D-glucoside	C <sub>28</sub> H <sub>32</sub> O <sub>16</sub>	624.54	Bark, peel
Eriodictyol-7-O-α-L-arabinofuranosyl (1-6)-β-D-glucoside	C <sub>26</sub> H <sub>30</sub> O <sub>15</sub>	582.51	Leaves
Naringenin 4'-methylether 7-O-α-L-arabinofuranosyl (1-6)-β-D-glucoside	C <sub>27</sub> H <sub>32</sub> O <sub>14</sub>	580.53	Leaves
Organic Acids			
Caffeic acid	C <sub>9</sub> H <sub>8</sub> O <sub>4</sub>	180.16	Juice
Chlorogenic acid	C <sub>16</sub> H <sub>18</sub> O <sub>9</sub>	345.31	Juice
Cinnamic acid	C <sub>9</sub> H <sub>8</sub> O <sub>2</sub>	148.16	Juice

<b>Pomegranate Phytochemicals</b>	<b>Formula</b>	<b>Molecular weight (MW)</b>	<b>Plant Part</b>
Citric acid	C <sub>6</sub> H <sub>8</sub> O <sub>7</sub>	192.12	Juice
o-Coumaric acid	C <sub>9</sub> H <sub>8</sub> O <sub>3</sub>	164.16	Juice
p-Coumaric acid	C <sub>9</sub> H <sub>8</sub> O <sub>3</sub>	164.16	Juice
Ferulic acid	C <sub>10</sub> H <sub>10</sub> O <sub>4</sub>	194.18	Juice
Gallic acid	C <sub>7</sub> H <sub>6</sub> O <sub>5</sub>	170.12	Juice
L-Malic acid	C <sub>4</sub> H <sub>6</sub> O <sub>5</sub>	134.09	Juice
Oxalic acid	C <sub>2</sub> H <sub>2</sub> O <sub>4</sub>	90.03	Juice
Protocatechuic acid	C <sub>7</sub> H <sub>6</sub> O <sub>4</sub>	154.12	Juice
Quinic acid	C <sub>7</sub> H <sub>12</sub> O <sub>6</sub>	192.17	Juice
Succinic acid	C <sub>4</sub> H <sub>6</sub> O <sub>4</sub>	118.09	Juice
<b>Organic Acids</b>			
Caffeic acid	C <sub>9</sub> H <sub>8</sub> O <sub>4</sub>	180.16	Juice
Chlorogenic acid	C <sub>16</sub> H <sub>18</sub> O <sub>9</sub>	345.31	Juice
Cinnamic acid	C <sub>9</sub> H <sub>8</sub> O <sub>2</sub>	148.16	Juice
Citric acid	C <sub>6</sub> H <sub>8</sub> O <sub>7</sub>	192.12	Juice
o-Coumaric acid	C <sub>9</sub> H <sub>8</sub> O <sub>3</sub>	164.16	Juice
p-Coumaric acid	C <sub>9</sub> H <sub>8</sub> O <sub>3</sub>	164.16	Juice
Ferulic acid	C <sub>10</sub> H <sub>10</sub> O <sub>4</sub>	194.18	Juice
Gallic acid	C <sub>7</sub> H <sub>6</sub> O <sub>5</sub>	170.12	Juice
L-Malic acid	C <sub>4</sub> H <sub>6</sub> O <sub>5</sub>	134.09	Juice
Oxalic acid	C <sub>2</sub> H <sub>2</sub> O <sub>4</sub>	90.03	Juice
Protocatechuic acid	C <sub>7</sub> H <sub>6</sub> O <sub>4</sub>	154.12	Juice
<b>(Continued)</b>			
Quinic acid	C <sub>7</sub> H <sub>12</sub> O <sub>6</sub>	192.17	Juice
Succinic acid	C <sub>4</sub> H <sub>6</sub> O <sub>4</sub>	118.09	Juice
Tartaric acid	C <sub>4</sub> H <sub>6</sub> O <sub>6</sub>	150.09	Juice

<b>Pomegranate Phytochemicals</b>	<b>Formula</b>	<b>Molecular weight (MW)</b>	<b>Plant Part</b>
<b>Simple Gallyol Derivatives</b>			
Brevifolin	C <sub>12</sub> H <sub>8</sub> O <sub>6</sub>	248.19	Leaves
Brevifolin carboxylic acid	C <sub>13</sub> H <sub>8</sub> O <sub>8</sub>	292.2	Leaves
Brevifolin carboxylic acid-10-monosulphate	C <sub>13</sub> H <sub>7</sub> KO <sub>10</sub> S	394.25	Leaves
1,2,3-Tri-O-galloyl-β-D-glucose	C <sub>27</sub> H <sub>24</sub> O <sub>18</sub>	448.32	Leaves
1,2,4-Tri-O-galloyl-β-D-glucose	C <sub>27</sub> H <sub>24</sub> O <sub>18</sub>	286.24	Leaves
1,2,6-Tri-O-galloyl-β-D-glucose	C <sub>27</sub> H <sub>24</sub> O <sub>18</sub>	286.24	Leaves
1,4,6-Tri-O-galloyl-β-D-glucose	C <sub>27</sub> H <sub>24</sub> O <sub>18</sub>	432.11	Leaves
1,3,4-Tri-O-galloyl-β-D-glucose	C <sub>27</sub> H <sub>24</sub> O <sub>18</sub>	432.11	Leaves
1,2, 4, 6-Tetra-O-galloyl-β-D-glucose	C <sub>34</sub> H <sub>28</sub> O <sub>22</sub>	418.09	Leaves
1,2,3,4, 6-Pent-O-galloyl-β-D-glucose	C <sub>41</sub> H <sub>32</sub> O <sub>26</sub>	318.04	Leaves
Methyl gallate	C <sub>8</sub> H <sub>8</sub> O <sub>5</sub>	302.04	Heratwood
3,4,8,9,10-pentahydroxy-dibenzo[b,d]pyran-6-one	C <sub>13</sub> H <sub>8</sub> O <sub>7</sub>	464.38	Leaves
<b>Fatty Acids and Triglycerides</b>			
Eicosenoic acid	C <sub>20</sub> H <sub>40</sub> O <sub>2</sub>	312.53	Seed oil
Linoleic acid	C <sub>18</sub> H <sub>32</sub> O <sub>2</sub>	280.45	Seed oil
Linolenic acid	C <sub>18</sub> H <sub>30</sub> O <sub>2</sub>	278.43	Seed oil
Oleic acid	C <sub>18</sub> H <sub>34</sub> O <sub>2</sub>	282.46	Seed oil
Palmitic acid	C <sub>16</sub> H <sub>32</sub> O <sub>2</sub>	256.42	Seed oil
Punicic acid	C <sub>18</sub> H <sub>30</sub> O <sub>2</sub>	278.43	Seed oil
Stearic acid	C <sub>18</sub> H <sub>36</sub> O <sub>2</sub>	284.48	Seed oil
Tri-O-punicylglycerol	C <sub>57</sub> H <sub>92</sub> O <sub>6</sub>	873.34	Seeds
Di-O-punicyl-O-octadeca-8Z-11Z-13E-trienylglycerol	C <sub>57</sub> H <sub>92</sub> O <sub>6</sub>	873.34	Seeds
1-O-trans, cis, trans, octadecatrienol glycerol	C <sub>21</sub> H <sub>36</sub> O <sub>4</sub>	352.51	Seed oil
1-O-isopentyl-3-O-octadec-2-enoyl glycerol	C <sub>26</sub> H <sub>50</sub> O <sub>4</sub>	426.67	Seed oil

<b>Pomegranate Phytochemicals</b>	<b>Formula</b>	<b>Molecular weight (MW)</b>	<b>Plant Part</b>
<b>Sterols and Terpenoids</b>			
Asiatic acid	C <sub>30</sub> H <sub>48</sub> O <sub>5</sub>	488.7	Juice
Betulinic acid	C <sub>30</sub> H <sub>48</sub> O <sub>3</sub>	456.70	Seed
Cholesterol	C <sub>27</sub> H <sub>46</sub> O	386.65	Seed oil
Daucosterol	C <sub>35</sub> H <sub>60</sub> O <sub>6</sub>	576.85	Seed
Estrone	C <sub>18</sub> H <sub>22</sub> O <sub>2</sub>	270.37	Seed oil
Estradiol	C <sub>18</sub> H <sub>24</sub> O <sub>2</sub>	272.38	Seed oil
Estriol	C <sub>18</sub> H <sub>24</sub> O <sub>3</sub>	288.38	Seed oil
Friedooleanan-3-one	C <sub>30</sub> H <sub>50</sub> O	426.72	Bark
$\beta$ -Sitosterol	C <sub>29</sub> H <sub>50</sub> O	414.71	Seed oil, leaves, stem
Stigmasterol	C <sub>29</sub> H <sub>48</sub> O	412.69	Seed oil
Testosterone	C <sub>19</sub> H <sub>28</sub> O <sub>2</sub>	288.42	Seed oil
Ursolic acid	C <sub>30</sub> H <sub>48</sub> O <sub>3</sub>	456.70	Seed
<b>Alkaloids</b>			
Hygrine	C <sub>8</sub> H <sub>15</sub> NO	141.21	Root bark
<b>(Continued)</b>			
Norhygrine	C <sub>7</sub> H <sub>13</sub> NO	127.18	Root bark
Pelletierine	C <sub>8</sub> H <sub>15</sub> NO	141.21	Bark
N-methyl pelletierine	C <sub>9</sub> H <sub>17</sub> NO	155.24	Bark
Sedridine	C <sub>8</sub> H <sub>17</sub> NO	143.23	Bark
Pseudopelletierine	C <sub>9</sub> H <sub>15</sub> NO	153.22	Bark
Nor-pseudopelletierine	C <sub>8</sub> H <sub>13</sub> NO	139.19	Bark
2,3,4,5-tetrahydro-6-propenyl-pyridine	C <sub>8</sub> H <sub>13</sub> N	123.20	Bark
3,4,5,6-tetrahydro- $\alpha$ -methyl-2-pyridine ethanol	C <sub>8</sub> H <sub>15</sub> NO	141.21	Bark
1-(2,5-dihydroxy-phenyl)-pyridium chloride	C <sub>11</sub> H <sub>10</sub> ClNO <sub>2</sub>	223.66	Leaves

<b>Pomegranate Phytochemicals</b>	<b>Formula</b>	<b>Molecular weight (MW)</b>	<b>Plant Part</b>
Other Compounds			
Coniferyl 9-O-[ $\beta$ -D-apiofuranosyl-(1-6)]-O- $\beta$ -D-glucopyranoside	C <sub>21</sub> H <sub>30</sub> O <sub>12</sub>	474.46	Seed
Pseudopelletierine	C <sub>9</sub> H <sub>15</sub> NO	153.22	Bark
Nor-pseudopelletierine	C <sub>8</sub> H <sub>13</sub> NO	139.19	Bark
2,3,4,5-tetrahydro-6-propenyl-pyridine	C <sub>8</sub> H <sub>13</sub> N	123.20	Bark
3,4,5,6-tetrahydro-a-methyl-2-pyridine ethanol	C <sub>8</sub> H <sub>15</sub> NO	141.21	Bark
1-(2,5-dihydroxy-phenyl)-pyridium chloride	C <sub>11</sub> H <sub>10</sub> ClNO <sub>2</sub>	223.66	Leaves
Other Compounds			
Coniferyl 9-O-[ $\beta$ -D-apiofuranosyl-(1-6)]-O- $\beta$ -D-glucopyranoside	C <sub>21</sub> H <sub>30</sub> O <sub>12</sub>	474.46	Seed
Sinapyl 9-O-[ $\beta$ -D-apiofuranosyl-(1-6)]-O- $\beta$ -D-glucopyranoside	C <sub>18</sub> H <sub>36</sub> O <sub>2</sub>	284.48	Seed
Phenylethylrutinoside	C <sub>57</sub> H <sub>92</sub> O <sub>6</sub>	873.34	Seeds
Icariside D1	C <sub>57</sub> H <sub>92</sub> O <sub>6</sub>	873.34	Seeds
Mannitol	C <sub>21</sub> H <sub>36</sub> O <sub>4</sub>	352.51	Bark