

# Supplementary Materials

## Tissue-Specific Expression of the Terpene Synthase Family Genes in *Rosa chinensis* and Effect of Abiotic Stress Conditions

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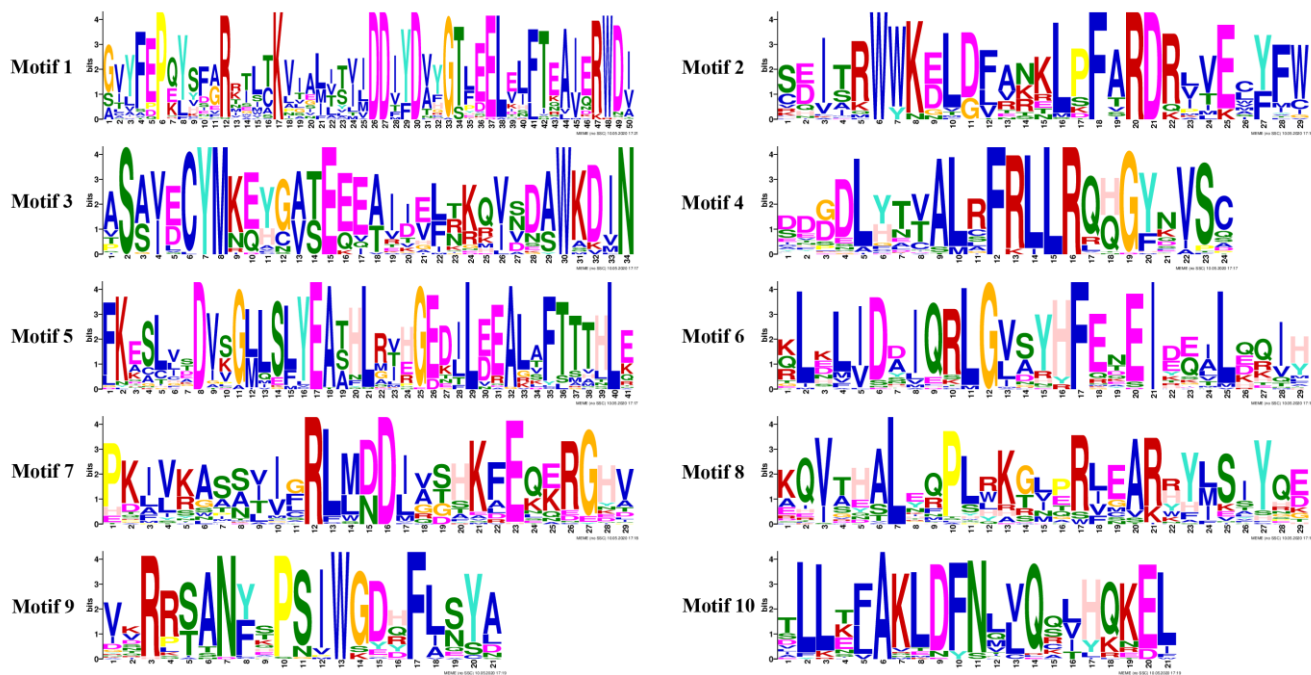
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**Figure S1.** Ten conserved motifs in RcTPS proteins identified by MEME tool.

**Table S1.** Accession number of the TPS proteins represented in phylogenetic analysis.

Species	Gene ID	Accession number
<i>Arabidopsis thaliana</i>	<i>AtTPS01</i>	AT4G15870.1
	<i>AtTPS02</i>	AT4G16730.1
	<i>AtTPS03</i>	AT4G16740.1
	<i>AtTPS04</i>	AT1G61120.1
	<i>AtTPS05</i>	AT2G23230.1
	<i>AtTPS06</i>	AT1G70080.1
	<i>AtTPS07</i>	AT4G20200.1
	<i>AtTPS08</i>	AT4G20210.1
	<i>AtTPS09</i>	AT4G20230.1
	<i>AtTPS10</i>	AT2G24210.1
	<i>AtTPS11</i>	AT5G44630.1
	<i>AtTPS12</i>	AT4G13280.1
	<i>AtTPS13</i>	AT4G13300.1
	<i>AtTPS14</i>	AT1G61680.1
	<i>AtTPS15</i>	AT3G29190.1
	<i>AtTPS16</i>	AT3G29110.1
	<i>AtTPS17</i>	AT3G14490.1
	<i>AtTPS18</i>	AT3G14520.1
	<i>AtTPS19</i>	AT3G14540.1
	<i>AtTPS20</i>	AT5G48110.1
	<i>AtTPS21</i>	AT5G23960.1
	<i>AtTPS22</i>	AT1G33750.1
	<i>AtTPS23</i>	AT3G25830.1
	<i>AtTPS24</i>	AT3G25810.1
	<i>AtTPS25</i>	AT3G29410.1
	<i>AtTPS26</i>	AT1G66020.1
	<i>AtTPS27</i>	AT3G25820.1
	<i>AtTPS28</i>	AT1G48800.1
	<i>AtTPS29</i>	AT1G31950.1
	<i>AtTPS30</i>	AT3G32030.1
	<i>AtTPS31</i>	AT4G02780.1
	<i>AtTPS32</i>	AT1G79460.1
<i>Solanum lycopersicum</i>	<i>SlTPS03</i>	Solyc01g105870
	<i>SlTPS04</i>	Solyc01g105880
	<i>SlTPS05</i>	Solyc01g105890
	<i>SlTPS07</i>	Solyc01g105920
	<i>SlTPS08</i>	Solyc01g105960
	<i>SlTPS09</i>	Solyc06g059885
	<i>SlTPS10</i>	Solyc06g059910
	<i>SlTPS12</i>	Solyc06g059930
	<i>SlTPS14</i>	Solyc09g092470
	<i>SlTPS16</i>	Solyc07g008680

	<i>SITPS17</i>	Solyc12g006570
	<i>SITPS18</i>	Solyc08g005720
	<i>SITPS19</i>	Solyc08g005670
	<i>SITPS20</i>	Solyc08g005665
	<i>SITPS21</i>	Solyc08g005640
	<i>SITPS24</i>	Solyc07g066670
	<i>SITPS25</i>	Solyc02g079890
	<i>SITPS27</i>	Solyc02g079910
	<i>SITPS28</i>	Solyc04g054380
	<i>SITPS31</i>	Solyc01g101170
	<i>SITPS32</i>	Solyc01g101180
	<i>SITPS33</i>	Solyc01g101190
	<i>SITPS35</i>	Solyc01g101210
	<i>SITPS36</i>	Solyc06g060180
	<i>SITPS37</i>	Solyc10g005410
	<i>SITPS38</i>	Solyc02g079840
	<i>SITPS39</i>	Solyc10g005390
	<i>SITPS40</i>	Solyc06g084240
	<i>SITPS41</i>	Solyc08g005710
	<i>SITPS46</i>	Solyc03g006550
	<i>SITPS47</i>	Solyc03g007730
	<i>SITPS48</i>	Solyc04g051620
<i>Malus domestica</i>	<i>MdTPS01</i>	MDP0000120176
	<i>MdTPS04</i>	MDP0000130635
	<i>MdTPS05</i>	MDP0000161084
	<i>MdTPS06</i>	MDP0000203143
	<i>MdTPS07</i>	MDP0000205617
	<i>MdTPS08</i>	MDP0000225361
	<i>MdTPS09</i>	MDP0000233869
	<i>MdTPS11</i>	MDP0000248152
	<i>MdTPS12</i>	MDP0000265187
	<i>MdTPS13</i>	MDP0000274847
	<i>MdTPS14</i>	MDP0000274848
	<i>MdTPS15</i>	MDP0000276976
	<i>MdTPS16</i>	MDP0000295452
	<i>MdTPS17</i>	MDP0000317119
	<i>MdTPS19</i>	MDP0000670935
	<i>MdTPS20</i>	MDP0000702120
	<i>MdTPS21</i>	MDP0000746466
	<i>MdTPS24</i>	MDP0000154813
	<i>MdTPS25</i>	MDP0000199152
	<i>MdTPS27</i>	MDP0000322688
	<i>MdTPS30</i>	MDP0000147908
	<i>MdTPS38</i>	MDP0000321353

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<i>MdTPS39</i>	MDP0000192151
<i>MdTPS40</i>	MDP0000192374
<i>MdTPS42</i>	MDP0000227442
<i>MdTPS44</i>	MDP0000318427
<i>MdTPS46</i>	MDP0000828007
<i>MdTPS47</i>	MDP0000245233
<i>MdTPS48</i>	MDP0000267906
<i>MdTPS49</i>	MDP0000293842
<i>MdTPS50</i>	MDP0000298903
<i>MdTPS51</i>	MDP0000308115
<i>MdTPS52</i>	MDP0000398063
<i>MdTPS53</i>	MDP0000561715
<i>MdTPS54</i>	MDP0000562538

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TPS proteins from *A. thaliana*, *S. lycopersicum* and *M. domestica* were obtained from their genome database. *A. thaliana*: <https://www.arabidopsis.org/>; *S. lycopersicum*: <https://solgenomics.net/>; *M. domestica*: <https://www.rosaceae.org/>.

**Table S2.** The FPKM values of *RcTPS* genes in different *R. chinensis* tissues.

Gene ID	Root	Stem	Leaf	Stamen	Pistil	FB_GP	FB_CP	FB_PP	OF_PP
<i>RcTPS01</i>	0.4802	0.1833	0.0000	2.7108	2.0556	0.1846	0.8767	0.4174	6.9958
<i>RcTPS02</i>	1.1422	1.6723	0.1068	0.3283	2.5626	0.2421	0.1205	0.1480	0.5041
<i>RcTPS03</i>	0.2620	0.2428	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
<i>RcTPS04</i>	0.0000	0.0000	0.4840	0.0000	0.1796	0.0000	0.0000	0.0000	0.0000
<i>RcTPS05</i>	0.0000	0.5817	1.4969	0.0000	0.5264	0.0000	0.0083	0.0000	0.0000
<i>RcTPS06</i>	0.9880	0.0510	0.0348	547.1979	114.1788	0.6490	0.6222	12.6447	1221.0065
<i>RcTPS07</i>	0.0000	0.3177	1.8180	0.0262	0.0000	0.0000	0.0000	0.0000	0.0102
<i>RcTPS08</i>	0.0000	0.0000	0.0000	0.0218	0.3055	0.0000	0.0000	0.0000	0.0133
<i>RcTPS09</i>	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.9013
<i>RcTPS10</i>	0.0127	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
<i>RcTPS11</i>	0.0501	0.0195	0.0256	0.0000	0.2189	0.0000	0.0000	0.0000	0.0000
<i>RcTPS12</i>	0.0000	0.0000	0.0000	0.0000	0.0000	0.0138	0.0000	0.0000	0.0000
<i>RcTPS13</i>	0.0000	0.0000	0.3189	0.0000	0.3909	0.0000	0.1114	0.0451	0.0000
<i>RcTPS14</i>	0.0000	0.0000	0.0000	0.3365	0.1824	0.0000	0.1648	12.6921	10.6036
<i>RcTPS15</i>	0.0000	29.2513	0.8889	0.0000	11.9935	0.0141	0.0347	0.0000	0.0405
<i>RcTPS16</i>	0.0624	0.1774	0.0000	201.5982	14.2189	3.6696	5.2582	3632.6967	3881.7549
<i>RcTPS17</i>	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
<i>RcTPS18</i>	0.0993	3.5836	35.7958	0.0366	0.2065	0.0000	0.0000	0.0000	0.1078
<i>RcTPS19</i>	0.0000	0.0182	0.0000	0.6362	0.8910	0.8415	7.4730	9.4191	0.5071
<i>RcTPS20</i>	0.0000	0.0000	0.0000	1.6356	9.9552	23.9863	199.1275	62.9024	0.4252
<i>RcTPS21</i>	0.0617	0.0000	2.8209	0.0220	2.4499	0.0000	0.0141	0.0000	0.0076
<i>RcTPS22</i>	0.0000	0.0338	1.0356	0.0000	1.1461	0.0201	0.0215	0.0000	0.0000
<i>RcTPS23</i>	0.0000	0.0000	0.0000	0.3350	0.0000	0.0000	0.0041	0.0067	0.0000
<i>RcTPS24</i>	0.0654	58.9367	71.0150	0.0000	0.1474	0.3892	0.0162	0.0000	0.0070
<i>RcTPS25</i>	7.2104	0.7112	0.0198	0.0354	0.2088	0.0000	0.0091	0.0000	0.0083
<i>RcTPS26</i>	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0028
<i>RcTPS27</i>	0.0000	0.0000	0.8347	0.0000	0.9326	0.0000	0.0000	0.0000	0.0031
<i>RcTPS28</i>	0.0000	0.0845	0.8170	0.0000	0.0358	0.0108	0.0000	0.0169	0.2372
<i>RcTPS29</i>	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
<i>RcTPS30</i>	0.8409	0.0000	0.0000	0.0000	0.3194	0.0000	0.0166	0.0000	0.0000
<i>RcTPS31</i>	7.7600	10.1484	3.3916	2.7991	19.2997	4.6147	3.1788	1.9191	12.5750
<i>RcTPS32</i>	0.0563	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
<i>RcTPS33</i>	0.0000	0.0000	0.0000	0.0000	0.3197	0.0000	0.0000	0.0000	0.0094
<i>RcTPS34</i>	0.0000	0.1045	0.0298	0.2680	0.0096	0.0171	0.0267	40.8715	67.3302
<i>RcTPS35</i>	0.1878	0.0804	0.6055	0.0908	0.8645	0.1448	0.0103	0.0128	1.8238
<i>RcTPS36</i>	0.3386	0.0182	0.0280	235.8967	27.4991	0.2153	0.2245	4.3817	581.9530
<i>RcTPS37</i>	0.1074	0.1879	10.0093	0.3588	5.2917	36.4463	56.8342	13.3891	0.2131

<i>RcTPS38</i>	0.0844	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
<i>RcTPS39</i>	0.0000	0.1056	0.0000	0.0086	0.0632	0.0000	0.0000	0.0000	0.0000
<i>RcTPS40</i>	0.0427	0.0232	0.2180	0.0000	1.2654	0.0104	0.0088	0.0000	0.4627
<i>RcTPS41</i>	0.0000	0.0000	0.0000	0.0279	0.2976	0.0000	0.0139	0.0445	0.1959
<i>RcTPS42</i>	0.0000	0.0000	0.1562	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
<i>RcTPS43</i>	0.5753	0.0130	0.0166	0.0000	0.1066	0.0000	0.0000	0.0000	0.0000
<i>RcTPS44</i>	0.0000	0.0000	0.0000	0.0242	0.0000	0.0000	0.0000	0.0085	30.7075
<i>RcTPS45</i>	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
<i>RcTPS46</i>	0.0000	0.0000	0.0000	0.8824	0.0456	0.0000	0.1746	0.1187	45.8209
<i>RcTPS47</i>	0.0891	0.2064	0.1773	0.0039	0.0445	0.2056	0.1006	0.0000	0.0000
<i>RcTPS48</i>	0.2596	0.0793	0.1386	0.0000	0.0078	0.0000	0.0000	0.0000	0.0000
<i>RcTPS49</i>	0.0149	0.1469	1.1668	0.2792	0.5457	0.0627	0.0439	0.2053	0.2756

All FPKM values were downloaded from NCBI under BioProject PRJNA546486 and BioProject PRJNA351281. FB\_GP: green petals in the flower buds; FB\_CP: color-changing petals in the flower buds; FB\_PP: pink petals in the flower buds; OF\_PP: pink petals of the open flowers.

**Table S3.** The expression values of *RcTPS* genes under 200 mM mannitol treatment for 48 h.

Gene ID	CK	12 h	24 h	48 h
<i>RcTPS01</i>	20.5331±4.7816 a	8.7991±1.1336 c	12.6704±6.8054 bc	15.4782±5.4544 ab
<i>RcTPS02</i>	18.331±3.1179 b	23.5195±7.6909 b	58.9961±24.095 a	70.6734±20.1988 a
<i>RcTPS03</i>	12.8167±6.5792 b	17.2363±0.9203 b	40.4733±15.2319 a	53.3257±14.3186 a
<i>RcTPS04</i>	2.18±0.5864 b	2.4271±0.2411 b	6.0198±2.0727 a	5.8405±2.1489 a
<i>RcTPS05</i>	49.5417±3.4823 b	59.2808±1.1228 b	90.6046±36.8779 a	99.136±20.6175 a
<i>RcTPS06</i>	7996.0724±795.5345 a	1738.8111±229.9443 b	1603.6049±411.3078 b	639.2552±184.6102 c
<i>RcTPS07</i>	519.5228±101.4995 a	112.9524±33.4952 c	279.9107±164.275 b	171.9421±50.2511 bc
<i>RcTPS08</i>	7.7494±0.4599 b	8.0603±0.607 b	12.1067±6.0635 a	12.1015±2.0397 a
<i>RcTPS09</i>	15.9412±1.7627 b	12.9988±4.2955 b	27.5294±10.8596 a	34.8638±9.4434 a
<i>RcTPS10</i>	6.6234±0.6723 b	3.4541±4.2148 b	27.7012±15.4526 a	40.2797±15.1221 a
<i>RcTPS11</i>	38.6201±6.5629 b	21.2161±4.3192 b	169.0793±79.2691 a	39.1831±10.3998 b
<i>RcTPS12</i>	2.1176±0.3866 b	6.476±0.1047 b	60.1771±25.5669 a	22.131±6.1822 b
<i>RcTPS13</i>	3.1537±1.1771 b	1.6783±0.3763 b	18.1839±6.2777 a	3.8568±0.4757 b
<i>RcTPS14</i>	360.7312±60.0087 a	127.0249±9.2762 b	180.2859±67.3997 b	22.1345±2.2816 c
<i>RcTPS15</i>	10.9948±1.7483 b	6.4514±0.9512 b	58.0695±17.8909 a	17.1635±4.5193 b
<i>RcTPS16</i>	473.9112±42.0035 a	132.2631±1.3732 b	183.9881±85.3515 b	17.0735±6.4467 c
<i>RcTPS17</i>	22.1986±13.441 bc	16.111±0.8298 c	125.5594±38.7968 a	51.2007±14.5989 b
<i>RcTPS18</i>	4.1986±1.5662 b	1.1068±0.5374 b	20.7008±10.4711 a	8.1014±3.3301 b
<i>RcTPS19</i>	3.9527±1.3494 b	3.4858±0.3965 b	31.8489±17.3609 a	10.9224±2.683 b
<i>RcTPS20</i>	4.3357±0.2762 bc	1.9105±0.0489 c	23.6066±9.6961 a	10.8156±1.4063 b
<i>RcTPS21</i>	22.7627±1.6565 c	29.6214±0.8798 c	57.6954±32.7117 b	93.8743±28.7302 a
<i>RcTPS22</i>	9.033±0.7107 bc	5.1144±0.685 c	11.4952±5.5718 b	16.8309±4.4958 a
<i>RcTPS23</i>	49.5186±5.8605 bc	45.1601±7.2513 c	87.4396±44.0575 ab	114.8459±29.8097 a
<i>RcTPS24</i>	9.1626±0.0845 b	7.0602±2.5701 b	11.2967±4.7189 b	18.7653±5.0947 a
<i>RcTPS25</i>	7.5702±0.7226 b	6.9436±1.5336 b	11.5203±4.9061 b	18.9715±7.8756 a
<i>RcTPS26</i>	2.7738±0.746 a	2.7544±0.3358 a	4.621±2.871 a	6.4414±4.1579 a
<i>RcTPS27</i>	8.1708±0.9611 bc	7.074±1.4002 c	13.0486±2.5679 b	19.2522±6.1437 a
<i>RcTPS28</i>	2.4619±0.6741 b	2.9949±1.0024 b	4.5918±2.0553 b	7.4907±1.565 a
<i>RcTPS29</i>	16.1867±0.7108 a	6.7123±1.3893 c	11.3706±2.5894 b	16.235±4.1568 a
<i>RcTPS30</i>	19.5066±3.7325 b	7.2482±0.7249 b	36.6826±17.959 a	19.6799±2.2535 b
<i>RcTPS31</i>	8.545±1.5001 b	6.544±1.6609 b	16.6796±2.3667 a	13.6975±5.2567 a
<i>RcTPS32</i>	23.0706±13.4697 b	19.8271±4.3352 b	58.434±49.7603 a	42.9171±3.3638 ab
<i>RcTPS33</i>	17.8672±3.342 b	11.5845±0.9815 b	32.8225±14.4217 a	24.6713±4.9581 ab
<i>RcTPS34</i>	69.4014±1.1282 a	7.1451±0.1836 bc	13.6169±2.3271 b	6.9581±1.4451 c
<i>RcTPS35</i>	23.2471±1.5824 bc	16.4199±1.6223 c	62.6582±22.1877 a	34.97±7.7386 b
<i>RcTPS36</i>	7133.4921±694.4568 a	1351.788±189.3819 b	1300.8403±764.9858 b	601.2937±146.1674 c
<i>RcTPS37</i>	6.4494±1.0472 b	4.0177±0.246 b	12.0027±8.7822 a	10.1488±1.76 ab



<i>RcTPS38</i>	18.5272±5.0603 b	17.0176±0.6219 b	80.742±55.1955 a	48.0462±14.7383 ab
<i>RcTPS39</i>	3.1277±0.3027 b	1±1.0915 c	4.6004±1.5759 a	3.7673±0.9437 ab
<i>RcTPS40</i>	19.4502±1.7878 b	17.8552±2.215 b	60.3449±21.9262 a	45.6461±4.2377 a
<i>RcTPS41</i>	9.5682±1.3574 b	12.2559±6.0865 b	39.1778±21.8579 a	32.0873±9.8642 a
<i>RcTPS42</i>	16.2119±1.6863 b	12.0749±1.597 b	38.0824±15.5616 a	24.1334±5.8253 b
<i>RcTPS43</i>	42.2961±1.6986 a	35.6968±5.3958 a	85.3709±20.4801 a	87.3782±35.1079 a
<i>RcTPS44</i>	4877.0452±1026.0816 a	1300.904±121.7703 b	682.4764±240.143 b	335.5978±81.0104 b
<i>RcTPS45</i>	3.0769±0.2735 bc	1.9469±0.2777 c	5.0038±2.1492 a	4.3606±1.2688 ab
<i>RcTPS46</i>	38.3566±5.232 ab	20.6318±4.603 b	51.4189±24.0382 a	45.5292±13.2274 a
<i>RcTPS47</i>	3.3551±0.5456 b	4.7641±0.611 b	7.3229±2.2378 a	8.5795±1.5639 a
<i>RcTPS48</i>	21.6899±1.6394 b	22.3846±0.9558 b	48.4381±52.4429 a	44.9235±14.11 ab
<i>RcTPS49</i>	6.263±0.3611 b	5.5414±0.6164 b	14.6623±5.7012 a	11.141±3.0061 a

Means with different letters (a, b and c) are significantly different ( $P < 0.05$ , one-way ANOVA along with Duncan's multiple range test).

**Table S4.** The expression values of *RcTPS* genes under heat treatment (35 °C) for 24 h.

Gene ID	CK	6 h	12 h	24 h
<i>RcTPS01</i>	11.5039±3.8756 b	29.8422±5.9904 b	66.2849±53.2353 a	15.8401±0.8598 b
<i>RcTPS02</i>	9.712±1.2102 c	52.842±4.6038 a	44.1836±12.3975 a	28.0483±4.3715 b
<i>RcTPS03</i>	1.6417±0.4766 c	8.7708±1.638 a	4.7201±1.0805 b	4.6555±0.1967 b
<i>RcTPS04</i>	0.5204±0.1104 b	1.1833±0.2696 a	1.5677±0.6244 a	0.6281±0.1449 b
<i>RcTPS05</i>	8.0182±0.7837 b	17.8516±1.1161 a	21.1097±3.995 a	9.4756±1.923 b
<i>RcTPS06</i>	6494.7551±1390.5278 a	2618.0218±1132.1302 b	7143.3291±1496.8593 a	1389.6367±453.9075 b
<i>RcTPS07</i>	3501.6264±215.9918 a	633.1079±169.5449 b	407.7718±121.7547 b	336.0514±63.2676 b
<i>RcTPS08</i>	1.657±0.4037 bc	2.6941±0.2347 ab	2.7826±1.5016 a	1.43±0.0761 c
<i>RcTPS09</i>	2.5663±0.3879 b	7.2374±0.828 a	7.0612±2.075 a	3.8416±0.3154 b
<i>RcTPS10</i>	2.8853±0.4956 b	6.5056±0.8094 a	4.9292±1.6261 a	3.4531±0.3983 b
<i>RcTPS11</i>	7.2842±0.3087 b	18.1794±2.7322 a	21.6548±4.1929 a	9.6496±0.8097 b
<i>RcTPS12</i>	99.0999±29.9337 a	20.3112±3.7643 b	28.7624±6.8542 b	10.7811±0.9188 b
<i>RcTPS13</i>	0.8642±0.0848 a	1.7811±0.6151 a	2.0438±1.3906 a	0.9454±0.1674 a
<i>RcTPS14</i>	2188.146±116.1929 a	988.619±63.4937 c	1741.9887±356.9524 b	524.7555±57.7652 d
<i>RcTPS15</i>	2.7021±0.0963 b	7.188±0.0358 a	6.8489±2.3941 a	3.8154±0.5331 b
<i>RcTPS16</i>	2697.7121±247.0582 a	1216.3161±118.0096 c	1983.6057±502.6737 b	645.6162±50.9965 d
<i>RcTPS17</i>	5.8643±0.8049 b	17.2712±3.4539 a	16.9445±4.4601 a	9.1675±0.7251 b
<i>RcTPS18</i>	11.937±1.3384 a	2.7618±0.4802 c	4.5795±0.9807 b	1.4659±0.2503 d
<i>RcTPS19</i>	1.4259±0.1323 b	2.678±0.2881 b	4.0061±1.4873 a	1.4215±0.0798 b
<i>RcTPS20</i>	1.1568±0.2836 b	2.419±0.1731 a	2.1793±0.6107 a	1.284±0.1068 b
<i>RcTPS21</i>	6.8669±0.9697 b	17.9767±3.2595 a	18.0276±4.3466 a	9.542±0.7855 b
<i>RcTPS22</i>	1.5266±0.1974 c	3.2291±0.1856 b	4.8003±0.9335 a	1.714±0.2378 c
<i>RcTPS23</i>	10.6461±1.4055 b	27.907±5.4184 a	30.623±3.1869 a	14.8129±0.882 b
<i>RcTPS24</i>	2.1177±0.2027 c	3.7679±1.1102 b	5.0037±0.6059 a	2±0.635 c
<i>RcTPS25</i>	1.8733±0.1646 c	4.1157±0.3973 b	5.7183±1.7967 a	2.1846±0.4395 c
<i>RcTPS26</i>	0.7775±0.0136 b	1.753±0.6441 a	1.6531±1.0835 a	0.9305±0.1957 b
<i>RcTPS27</i>	7.6328±0.267 a	4.3416±0.3846 b	5.0488±1.5388 b	2.3045±0.1411 c
<i>RcTPS28</i>	0.7445±0.0843 a	1.7357±0.8829 a	1.9262±1.2159 a	0.9213±0.3126 a
<i>RcTPS29</i>	1.556±0.1993 c	3.3962±0.4646 b	4.5196±1.2795 a	1.8027±0.2674 c
<i>RcTPS30</i>	1.6081±0.2174 c	3.4952±0.5572 b	4.4585±0.5265 a	1.8553±0.1287 c
<i>RcTPS31</i>	4.0043±0.7943 b	22.8142±5.2528 a	24.1365±7.8372 a	12.1097±1.0288 b
<i>RcTPS32</i>	6.9291±1.2982 b	12.8019±3.2325 a	13.2998±2.7336 a	6.7952±0.6712 b
<i>RcTPS33</i>	2.4609±0.5045 b	6.9668±1.6668 a	8.6212±2.216 a	3.698±0.5681 b
<i>RcTPS34</i>	901.4146±37.8652 a	49.2625±13.0259 c	355.8609±101.1625 b	26.1484±6.0341 c
<i>RcTPS35</i>	4.4192±0.2982 b	17.42±4.2061 a	22.9259±4.4542 a	9.2465±0.9397 b
<i>RcTPS36</i>	7306.6674±1601.0915 a	2917.4335±670.9878 b	7325.2897±1567.9929 a	1548.5633±178.9693 b
<i>RcTPS37</i>	1.3375±0.1051 b	2.8168±0.7825 a	3.8847±1.2246 a	1.4952±0.2956 b

<i>RcTPS38</i>	5.9847±1.2547 b	9.0894±1.2624 b	11.8641±6.6359 a	4.8246±0.5512 b
<i>RcTPS39</i>	0.6029±0.2086 c	1.1704±0.0996 b	1.9731±0.3613 a	0.6212±0.0804 c
<i>RcTPS40</i>	4.0866±1.1188 c	15.969±3.082 a	16.8241±1.861 a	8.4763±0.4397 b
<i>RcTPS41</i>	3.2502±0.5984 b	16.8037±15.18 a	16.8454±3.5986 a	8.9193±6.1001 ab
<i>RcTPS42</i>	14.4618±4.3306 b	25.9899±5.1967 b	210.9919±71.3898 a	13.7953±1.0957 b
<i>RcTPS43</i>	7.8003±0.1406 c	15.5598±2.7896 b	25.6649±6.1572 a	8.2591±1.0598 c
<i>RcTPS44</i>	6605.7785±952.8025 a	2539.8493±240.6271 b	5455.03±1778.2561 a	1348.1429±142.4022 b
<i>RcTPS45</i>	0.5493±0.1917 b	1±0.4249 b	1.237±0.3499 a	0.5308±0.1865 b
<i>RcTPS46</i>	15.2228±1.4787 a	10.4708±2.1117 b	12.4362±2.6809 ab	5.5579±1.4562 c
<i>RcTPS47</i>	0.8066±0.2339 b	1.4732±0.1963 b	2.4749±0.957 a	0.782±0.1034 b
<i>RcTPS48</i>	3.2886±0.3821 c	16.1051±2.3015 a	14.289±4.3418 a	8.5485±0.4374 b
<i>RcTPS49</i>	0.8599±0.2682 b	1.9482±2.1213 ab	3.3787±1.8338 a	1.0341±1.0085 b

Means with different letters (a, b and c) are significantly different ( $P < 0.05$ , one-way ANOVA along with Duncan's multiple range test).

**Table S5.** Primers used for qRT-PCR analysis.

Gene ID	Forward primer (5' to 3')	Reverse primer (5' to 3')
<i>RcTPS01</i>	AGCCTCACTCATCCAACGCAATG	TTCCACCACCTAGCAATCTCACAC
<i>RcTPS02</i>	TCATTTGCCTTGGGACCGATTGTG	TCGAAACTCCGTACAGCCTCCTC
<i>RcTPS03</i>	AACCAACCGCCGTGCCAATATC	CTTCCCAACCCGTGTGAATCCATC
<i>RcTPS04</i>	CATTTCAGCGCTTGGGGGTAT	AGAGCAACCGTGTGAAGGTC
<i>RcTPS05</i>	TACCACCACTCATCTCCAGACTGC	CATGTAACGCCGAGCACCTAACC
<i>RcTPS06</i>	TCCGTGCCACAGATCCACTACC	TCGGTACAACCTTTCCCTCCTTTGC
<i>RcTPS07</i>	CGAATCCACTACGCCAGAGAAGC	TTAGCAGAGGGTAGCCTGTGGTC
<i>RcTPS08</i>	CAGGCTACCCGCTGCTTGTAAC	TGCACACCCTTTTACAGGTTTGG
<i>RcTPS09</i>	AGCATTATTGGTGGACGCAGAGTG	GCCCCTTCATCATGTGTTGTGGAG
<i>RcTPS10</i>	GGTCCTTCACCACCACTCATCTTG	CCTCGCTTCAATCCTTGGGTTCC
<i>RcTPS11</i>	TACCACCACTCATCTCCAGACTGC	CATGTAACGCCGAGCACCTAACC
<i>RcTPS12</i>	CCAGCATTTGGGGCGATCATTTTC	AGCACGCTCTTCACTTCTTCCTTC
<i>RcTPS13</i>	GAGACACCGATTTGAGGCCA	CCCATGCTGTCTAAGGAGCC
<i>RcTPS14</i>	AAGCACTAACCTTCACCACCACAC	TTCTAGCCTCGGTAAGCCCTTCC
<i>RcTPS15</i>	TGGTGGAAGGACTTGGACGTGAG	CACTGACAAAGCCCAGCCGAAG
<i>RcTPS16</i>	GCACTGACCTTCACCACCACAC	TTCTAGCCTCGGTAAGCCCTTCC
<i>RcTPS17</i>	CACTAACCTTCACCACCGCTCATC	CCTCGCTTCAATCCTTGGGCATG
<i>RcTPS18</i>	CGAATCCACTACGCCAGAGAAGC	TAGCATAGGGTAGCCTGTGGTCAC
<i>RcTPS19</i>	TGCGACGACAGCTTCAAGGATTG	GCTAGTGAATGCAAGGGCCTCATC
<i>RcTPS20</i>	TGGCGTCACAACAAGTACACACC	ACCAGAATGACCACCCCGGATAC
<i>RcTPS21</i>	ATGTTGTCTCAGCGGTGGAATGC	AGGGACAGTAGCGATAGGGTGAAG
<i>RcTPS22</i>	GCCAGATGGTTCCACGAAGGATG	ATGGTGTTACCGACAGAAGTTGCC
<i>RcTPS23</i>	CACTAACCTTCACCACCGCTCATC	ACAAGTGATGCCTCGCTTCAATCC
<i>RcTPS24</i>	CAACCATGCCTGTCCAAGCTACTC	TGTGCGCCGAACAACCTTCTGG
<i>RcTPS25</i>	TTCAAAGACGAGCGAATCCCAACC	CAATATCTCCCATGCCGACCAAGG
<i>RcTPS26</i>	AGCATTTGGGGCGATCAGTTTCTC	CGGAGCCTTCAGCATCGTGTTTC
<i>RcTPS27</i>	AGGCACTATCCTTCACCACCACTC	CCACCCTGTTGATGCCCTTTTCG
<i>RcTPS28</i>	TCTAATGCGACCTCTCAACCTTGC	TAGGCAGTAGGCACGGGTTTCG
<i>RcTPS29</i>	CAAATCAACAGGTCGGGACAGGAG	GGTGGCTGATGGAACTGGATGAG
<i>RcTPS30</i>	ACCCCAATACTTGCTTGCCAGAAG	AGTTCGTCAATGGTGCCGTATGC
<i>RcTPS31</i>	GAGGCAACAGAAGCAACTCAGAGG	AAGCAGCAGCAGTAGTTGATGGTG
<i>RcTPS32</i>	GGTCCTTCACCACCACTCATCTTG	AATGCCTCGCTTCAATCCTTGGG
<i>RcTPS33</i>	GCATTATTGGTGGAGGCAGAGTGG	GGCATGAGTCAAAGTCAGCAAAGC
<i>RcTPS34</i>	CCCGCCGCTTTTCAAACAAGTAAG	TTGGTTGCGTGATCCGTGTAGTTC
<i>RcTPS35</i>	TCGTCCACAGCAGCAATTCTTCG	TCGTGCCTCGTCAATGGAACAAC
<i>RcTPS36</i>	TCCGTGCCACAGATCCACTACC	TCGGTACAACCTTTCCCTCCTTTGC
<i>RcTPS37</i>	TTCCACGGAGAAGAAACGCTTGAC	GATGCTCCAGTGTGTGCGAGAC

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<i>RcTPS38</i>	GGTCCTTCACCACCACTCATCTTG	AATGCCTCGCTTCAATCCTTGGG
<i>RcTPS39</i>	GCTTGCGAAGGAGGGGAAGTTG	TTGTGGAAAGAGCGGCTGACATG
<i>RcTPS40</i>	TCGTCCACAGCAGCAATTCTTCG	GCCTCGTCAATGGAACAGCCTTG
<i>RcTPS41</i>	CGACTTTGGGACGACTTGGGAAG	TGCCTCCTCAATGGAACAACCTTG
<i>RcTPS42</i>	AGGACGCACTCCGAGCATGG	TTTCGGGTCATCCAACAACCACTC
<i>RcTPS43</i>	TACCACCACTCATCTCCAGACTGC	CATGTAACGCCGAGCACCTAACC
<i>RcTPS44</i>	AGGCACTAGACTTCACCACCACTC	TCTTGCTTCCACCCTCGGGATG
<i>RcTPS45</i>	GAAGTGAGGAGGACGCTAATGGC	GGACACGCCTAGACGCTGAATG
<i>RcTPS46</i>	TCAACATGGTTCAAGCCACACTCC	CCCACAGCACACATGAAACATTTCG
<i>RcTPS47</i>	TGCTCAAGGCTATGCTGAAGGAAG	GGTCCCAAGGCAAATGAGACGTAC
<i>RcTPS48</i>	TACCACGACTCATCTCCAGACTGC	CATGTAACGCCGAGCACCTAACC
<i>RcTPS49</i>	G TTCCTGACGAGTCTCCTGTGTTG	CCAGTCAAGACCTGCCATTCCTTC
<i>RcGAPDH</i>	GCTGGCAGGTATCCTTTCTG	GGCGACAATATCAGCCAAGT

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**Table S6.** Functional annotation of RcTPS proteins by Terzyme (<http://www.nipgr.ac.in/terzyme.html>).

Gene ID	Score	E-value	No. of domains	Putative function
<i>RcTPS01</i>	830.7	1.40E-252	1	Sesquiterpene Synthase
<i>RcTPS02</i>	806.8	2.50E-245	1	Sesquiterpene Synthase
<i>RcTPS03</i>	805.4	6.30E-245	1	Sesquiterpene Synthase
<i>RcTPS04</i>	800	2.80E-243	1	Sesquiterpene Synthase
<i>RcTPS05</i>	796.4	3.40E-242	1	Sesquiterpene Synthase
<i>RcTPS06</i>	792.3	5.80E-241	1	Sesquiterpene Synthase
<i>RcTPS07</i>	792.2	6.20E-241	1	Sesquiterpene Synthase
<i>RcTPS08</i>	792.1	6.80E-241	1	Sesquiterpene Synthase
<i>RcTPS09</i>	784.3	1.50E-238	1	Sesquiterpene Synthase
<i>RcTPS10</i>	783.9	2.10E-238	1	Sesquiterpene Synthase
<i>RcTPS11</i>	780.1	2.90E-237	1	Sesquiterpene Synthase
<i>RcTPS12</i>	779.6	4.30E-237	1	Sesquiterpene Synthase
<i>RcTPS13</i>	776.9	2.80E-236	1	Sesquiterpene Synthase
<i>RcTPS14</i>	776.6	3.40E-236	1	Sesquiterpene Synthase
<i>RcTPS15</i>	771.1	1.60E-234	1	Sesquiterpene Synthase
<i>RcTPS16</i>	770.3	2.80E-234	1	Sesquiterpene Synthase
<i>RcTPS17</i>	768.8	7.70E-234	1	Sesquiterpene Synthase
<i>RcTPS18</i>	767.3	2.30E-233	1	Sesquiterpene Synthase
<i>RcTPS19</i>	767.3	2.30E-233	1	Sesquiterpene Synthase
<i>RcTPS20</i>	763.8	2.60E-232	1	Sesquiterpene Synthase
<i>RcTPS21</i>	761.7	1.10E-231	1	Sesquiterpene Synthase
<i>RcTPS22</i>	761	1.90E-231	1	Sesquiterpene Synthase
<i>RcTPS23</i>	760.3	2.90E-231	1	Sesquiterpene Synthase
<i>RcTPS24</i>	755.5	8.20E-230	1	Sesquiterpene Synthase
<i>RcTPS25</i>	751	1.90E-228	1	Sesquiterpene Synthase
<i>RcTPS26</i>	750.8	2.20E-228	1	Sesquiterpene Synthase
<i>RcTPS27</i>	733.9	2.90E-223	1	Sesquiterpene Synthase
<i>RcTPS28</i>	720.7	2.90E-219	1	Sesquiterpene Synthase
<i>RcTPS29</i>	715.8	9.00E-218	1	Sesquiterpene Synthase
<i>RcTPS30</i>	706.3	6.50E-215	1	Sesquiterpene Synthase
<i>RcTPS31</i>	705.6	1.10E-214	1	Sesquiterpene Synthase
<i>RcTPS32</i>	683.7	4.70E-208	2	Sesquiterpene Synthase
<i>RcTPS33</i>	623.6	7.30E-190	2	Sesquiterpene Synthase
<i>RcTPS34</i>	611	5.00E-186	1	Sesquiterpene Synthase
<i>RcTPS35</i>	692.8	8.40E-211	1	Monoterpene Synthase
<i>RcTPS36</i>	672.6	1.10E-204	1	Monoterpene Synthase
<i>RcTPS37</i>	664.9	2.50E-202	1	Monoterpene Synthase

<i>RcTPS38</i>	622.6	1.60E-189	1	Monoterpene Synthase
<i>RcTPS39</i>	622.1	2.20E-189	1	Monoterpene Synthase
<i>RcTPS40</i>	616.3	1.20E-187	1	Monoterpene Synthase
<i>RcTPS41</i>	555	4.70E-169	1	Monoterpene Synthase
<i>RcTPS42</i>	552.2	3.20E-168	1	Monoterpene Synthase
<i>RcTPS43</i>	542.4	3.00E-165	1	Monoterpene Synthase
<i>RcTPS44</i>	503.5	1.80E-153	1	Monoterpene Synthase
<i>RcTPS45</i>	956.4	2.90E-290	1	Diterpene Synthase
<i>RcTPS46</i>	848.4	1.30E-257	2	Diterpene Synthase
<i>RcTPS47</i>	822.1	1.10E-249	2	Diterpene Synthase
<i>RcTPS48</i>	688.9	2.00E-209	1	Diterpene Synthase
<i>RcTPS49</i>	575.7	3.60E-175	1	Diterpene Synthase