In the title compound, C$_{25}$H$_{32}$O$_3$, the asymmetric unit contains two crystallographically independent molecules; both enone groups adopt an s-cis configuration. In the crystal, O–H···O and C–H···O intermolecular interactions form bifurcated hydrogen bonds, which generate $R_2^2(6)$ ring motifs. These intermolecular interactions link the molecules into one-dimensional chains along the [100] direction. The crystal structure is further stabilized by C–H···π interactions.

Related literature

For general background to the biological properties of chalcone derivatives, see: Bhat et al. (2005); Xue et al. (2004); Satyanarayana et al. (2004); Zhao et al. (2005); Yalzi et al. (2006). For related structures, see: Ng, Razak et al. (2006); Ng, Patil et al. (2006). For details of hydrogen-bond motifs, see: Bernstein et al. (1995). For bond-length data, see: Allen et al. (1987). For the stability of the temperature controller used in the data collection, see: Cosier & Glazer (1986).

Experimental

Crystal data

C$_{25}$H$_{32}$O$_3$

$M_r = 380.51$

Monoclinic, $P2_1/c$

$a = 12.4437$ (2) Å

$b = 35.5191$ (6) Å

$c = 9.8004$ (2) Å

$\beta = 99.284$ (1)$^\circ$

$V = 4274.93$ (13) Å$^3$

$Z = 8$

Mo $K\alpha$ radiation

$\mu = 0.08$ mm$^{-1}$

$T = 100$ K

0.52 $\times$ 0.44 $\times$ 0.35 mm

Data collection

Bruker APEXII CCD area-detector diffractometer

$\phi$ and $\omega$ scans

Absorption correction: multi-scan (SADABS; Bruker, 2005)

$T$min = 0.962, $T$max = 0.974

$R$ factor = 0.056; $wR$ factor = 0.153; data-to-parameter ratio = 32.9

Table 1

Hydrogen-bond geometry (Å, $^\circ$).

<table>
<thead>
<tr>
<th>D—H···A</th>
<th>D—H</th>
<th>H···A</th>
<th>D···A</th>
<th>D—H···A</th>
</tr>
</thead>
<tbody>
<tr>
<td>O1A—H10A···O2B</td>
<td>0.91 (2)</td>
<td>1.80 (2)</td>
<td>2.711 (1)</td>
<td>179 (3)</td>
</tr>
<tr>
<td>O1B—H10B···O2A$^a$</td>
<td>0.91 (2)</td>
<td>1.81 (2)</td>
<td>2.716 (1)</td>
<td>176 (2)</td>
</tr>
<tr>
<td>C4A···H4A···O2B$^a$</td>
<td>0.93</td>
<td>2.50</td>
<td>3.192 (1)</td>
<td>131</td>
</tr>
<tr>
<td>C4B···H4B···O2A$^a$</td>
<td>0.93</td>
<td>2.50</td>
<td>3.192 (1)</td>
<td>131</td>
</tr>
<tr>
<td>C14B···H14B···O3A</td>
<td>0.93</td>
<td>2.56</td>
<td>3.485 (1)</td>
<td>173</td>
</tr>
<tr>
<td>C18B···H18C···Cg1$^v$</td>
<td>0.97</td>
<td>2.85</td>
<td>3.696 (1)</td>
<td>146</td>
</tr>
<tr>
<td>C24B···H24D···Cg2$^u$</td>
<td>0.97</td>
<td>2.71</td>
<td>3.554 (1)</td>
<td>145</td>
</tr>
<tr>
<td>C22A···H22B···Cg3$^w$</td>
<td>0.97</td>
<td>2.95</td>
<td>3.743 (1)</td>
<td>140</td>
</tr>
</tbody>
</table>

$^a$Symmetry codes: (i) $-x+1$, $y-\frac{1}{2}$, $-z+\frac{1}{2}$; (ii) $-x+2$, $y+\frac{1}{2}$, $-z+\frac{1}{2}$; (iii) $-x+1$, $y-\frac{1}{2}$, $-z+\frac{1}{2}$; (iv) $x$, $-y+\frac{1}{2}$, $z-\frac{1}{2}$; Cg1, Cg2 and Cg3 are the centroids of the C14A-C6A, C10B-C15B and C1B-C6B rings, respectively.

Data collection: APEX2 (Bruker, 2005); cell refinement: SAINT (Bruker, 2005); data reduction: SAINT; program(s) used to solve structure: SHELXTL (Sheldrick, 2008); program(s) used to refine structure: SHELXTL; molecular graphics: SHELXTL; software used to prepare material for publication: SHELXTL and PLATON (Spek, 2009).

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Supplementary data and figures for this paper are available from the IUCr electronic archives (Reference: AT2746).

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