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N-[(*E*)-Anthracen-9-ylmethylidene]-3,4-dimethyl-1,2-oxazol-5-amine

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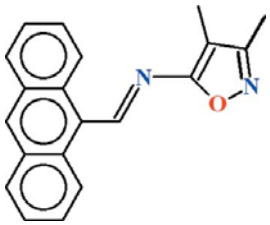
Key indicators: single-crystal X-ray study; T = 296 K; mean σ(C–C) = 0.002 Å; R factor = 0.044; wR factor = 0.130; data-to-parameter ratio = 15.2.

In the title compound, $C_{20}H_{16}N_2O$, an intramolecular C—H···N forms an $S(6)$ ring motif. In the crystal, the molecules are stacked with their anthracene ring planes in sheets along [100].

Related literature

For applications of compounds containing azomethine groups, see: Khuhawar *et al.* (2004). Schiff base compounds demonstrate antibacterial (Asiri & Khan, 2010), antitumor activity (Saxena & Tandon, 1983) and anti-HIV activity (Pandeya *et al.*, 1999). For related structures, see: Asiri *et al.* (2011*a*,*b*). For graph-set notation, see: Bernstein *et al.* (1995).



Experimental

Crystal data

$C_{20}H_{16}N_2O$
M_r = 300.35
Monoclinic, $C2/c$
a = 22.4919 (14) Å
b = 6.1666 (4) Å
c = 22.6801 (13) Å
β = 102.015 (2)°
V = 3076.8 (3) Å^3
Z = 8
Mo $K\alpha$ radiation
μ = 0.08 mm^{-1}
T = 296 K
0.32 × 0.24 × 0.22 mm

Data collection

Bruker KAPPA APEXII CCD diffractometer
Absorption correction: multi-scan (*SADABS*; Sheldrick, 2004)
T_{min} = 0.975, T_{max} = 0.980
12925 measured reflections
3193 independent reflections
2381 reflections with $I > 2\sigma(I)$
R_{int} = 0.028

Refinement

$R[F^2 > 2\sigma(F^2)]$ = 0.044
$wR(F^2)$ = 0.130
S = 1.04
3193 reflections
210 parameters
H-atom parameters constrained
$\Delta\rho_{max}$ = 0.26 e Å^{-3}
$\Delta\rho_{min}$ = −0.21 e Å^{-3}

Table 1
Hydrogen-bond geometry (Å, °).

D—H···A	D—H	H···A	D···A	D—H···A
C2—H2···N1	0.93	2.20	2.840 (2)	125

Data collection: *APEX2* (Bruker, 2009); cell refinement: *SAINT* (Bruker, 2009); data reduction: *SAINT*; program(s) used to solve structure: *SHELXS97* (Sheldrick, 2008); program(s) used to refine structure: *SHELXL97* (Sheldrick, 2008); molecular graphics: *ORTEP-3 for Windows* (Farrugia, 1997) and *PLATON* (Spek, 2009); software used to prepare material for publication: *WinGX* (Farrugia, 1999) and *PLATON*.

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Supplementary data and figures for this paper are available from the IUCr electronic archives (Reference: FK2045).

References

Asiri, A. M. & Khan, S. A. (2010). *Molecules*, **15**, 6850–6858.
Asiri, A. M., Khan, S. A. & Tahir, M. N. (2011*a*). *Acta Cryst.* E**67**, o2163.
Asiri, A. M., Khan, S. A. & Tahir, M. N. (2011*b*). *Acta Cryst.* E**67**, o2305.
Bernstein, J., Davis, R. E., Shimoni, L. & Chang, N.-L. (1995). *Angew. Chem. Int.* Ed. Engl. **34**, 1555–1573.
Bruker (2009). *APEX2* and *SAINT*. Bruker AXS Inc., Madison, Wisconsin, USA.
Farrugia, L. J. (1997). *J. Appl. Cryst.* **30**, 565.
Farrugia, L. J. (1999). *J. Appl. Cryst.* **32**, 837–838.
Khuhawar, M. Y., Mughal, M. A. & Channar, A. H. (2004). *Eur. Polymer J.* **40**, 805–809.
Pandeya, S. N., Sriram, D., Nath, G. & Clercq, E. De. (1999). *Pharm. Acta Helv.* **74**, 11–17.
Saxena, A. & Tandon, J. P. (1983). *Cancer Lett.* **19**, 73–76.
Sheldrick, G. M. (2004). *SADABS*. University of Göttingen, Germany.
Sheldrick, G. M. (2008). *Acta Cryst.* A**64**, 112–122.
Spek, A. L. (2009). *Acta Cryst.* D**65**, 148–155.