

Journal of  
**Medicinal Chemistry**

J. Med. Chem., 1998, 41(21), 4118-4129, DOI:[10.1021/jm9802968](https://doi.org/10.1021/jm9802968)

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Table 1. Atomic coordinates and  $B_{iso}/B_{eq}$ 

| atom  | x          | y           | z         | $B_{eq}$ |
|-------|------------|-------------|-----------|----------|
| Br    | 0.00098(8) | -0.55162(4) | 0.0964(2) | 4.23(4)  |
| F     | -0.2328(5) | -0.4193(3)  | 0.6212(8) | 4.3(1)   |
| O(1)  | -0.4254(4) | -0.3503(3)  | 0.083(1)  | 3.5(1)   |
| O(2)  | -0.2221(5) | -0.1743(3)  | 0.3024(9) | 3.1(1)   |
| O(3)  | -0.1607(6) | 0.0025(3)   | -0.012(1) | 4.9(2)   |
| O(4)  | -0.1531(4) | -0.2229(3)  | -0.231(1) | 3.1(1)   |
| N(1)  | -0.3710(5) | -0.1879(3)  | -0.173(1) | 2.1(1)   |
| N(2)  | -0.3144(5) | -0.2666(3)  | 0.184(1)  | 2.4(1)   |
| N(3)  | -0.1351(5) | -0.1083(4)  | -0.132(1) | 2.9(1)   |
| C(1)  | -0.4092(6) | -0.1611(4)  | -0.357(1) | 2.7(1)   |
| C(2)  | -0.4822(6) | -0.2046(4)  | -0.428(1) | 2.9(1)   |
| C(3)  | -0.4876(6) | -0.2612(4)  | -0.292(1) | 2.8(1)   |
| C(4)  | -0.4184(6) | -0.2510(4)  | -0.133(1) | 2.5(1)   |
| C(5)  | -0.3907(6) | -0.2934(4)  | 0.045(1)  | 2.4(1)   |
| C(6)  | -0.2751(5) | -0.2012(4)  | 0.167(1)  | 2.2(1)   |
| C(7)  | -0.2898(5) | -0.1611(4)  | -0.043(1) | 2.0(1)   |
| C(8)  | -0.2950(7) | -0.0826(4)  | -0.003(2) | 2.8(1)   |
| C(9)  | -0.1928(7) | -0.0557(4)  | -0.046(1) | 3.0(2)   |
| C(10) | -0.1846(6) | -0.1698(4)  | -0.152(1) | 2.3(1)   |
| C(11) | -0.2814(7) | -0.3103(5)  | 0.362(1)  | 2.9(2)   |
| C(12) | -0.2114(6) | -0.3670(4)  | 0.288(1)  | 2.4(1)   |
| C(13) | -0.1886(7) | -0.4212(4)  | 0.423(1)  | 2.7(1)   |
| C(14) | -0.1260(6) | -0.4766(4)  | 0.373(2)  | 3.0(2)   |
| C(15) | -0.0819(6) | -0.4757(4)  | 0.178(2)  | 2.7(1)   |

Table 1. Atomic coordinates and  $B_{iso}/B_{eq}$  (continued)

| atom  | x          | y          | z        | $B_{eq}$ |
|-------|------------|------------|----------|----------|
| C(16) | -0.1007(8) | -0.4241(5) | 0.035(2) | 3.4(2)   |
| C(17) | -0.1647(6) | -0.3698(5) | 0.089(1) | 2.9(1)   |
| H(1)  | -0.3891    | -0.1191    | -0.4246  | 3.0927   |
| H(2)  | -0.5214    | -0.1981    | -0.5543  | 3.6439   |
| H(3)  | -0.5319    | -0.3002    | -0.3055  | 3.3636   |
| H(4)  | -0.3426    | -0.0618    | -0.0980  | 3.5760   |
| H(5)  | -0.3141    | -0.0727    | 0.1392   | 3.5760   |
| H(6)  | -0.2479    | -0.2821    | 0.4636   | 3.5831   |
| H(7)  | -0.3397    | -0.3307    | 0.4242   | 3.5831   |
| H(8)  | -0.0656    | -0.1027    | -0.1702  | 3.5752   |
| H(9)  | -0.1123    | -0.5138    | 0.4716   | 3.5570   |
| H(10) | -0.0686    | -0.4248    | -0.1033  | 3.9660   |
| H(11) | -0.1773    | -0.3325    | -0.0104  | 3.6683   |

$$B_{eq} = \frac{8}{3}\pi^2(U_{11}(aa^*)^2 + U_{22}(bb^*)^2 + U_{33}(cc^*)^2 + 2U_{12}aa^*bb^* \cos \gamma + 2U_{13}aa^*cc^* \cos \beta + 2U_{23}bb^*cc^* \cos \alpha)$$

Table 3. Bond Lengths( $\text{\AA}$ )

| atom  | atom  | distance  | atom  | atom  | distance  |
|-------|-------|-----------|-------|-------|-----------|
| Br    | C(15) | 1.896(8)  | F     | C(13) | 1.37(1)   |
| O(1)  | C(5)  | 1.212(9)  | O(2)  | C(6)  | 1.22(1)   |
| O(3)  | C(9)  | 1.22(1)   | O(4)  | C(10) | 1.211(10) |
| N(1)  | C(1)  | 1.36(1)   | N(1)  | C(4)  | 1.390(9)  |
| N(1)  | C(7)  | 1.442(10) | N(2)  | C(5)  | 1.43(1)   |
| N(2)  | C(6)  | 1.366(10) | N(2)  | C(11) | 1.46(1)   |
| N(3)  | C(9)  | 1.38(1)   | N(3)  | C(10) | 1.36(1)   |
| C(1)  | C(2)  | 1.35(1)   | C(2)  | C(3)  | 1.39(1)   |
| C(3)  | C(4)  | 1.37(1)   | C(4)  | C(5)  | 1.43(1)   |
| C(6)  | C(7)  | 1.54(1)   | C(7)  | C(8)  | 1.53(1)   |
| C(7)  | C(10) | 1.56(1)   | C(8)  | C(9)  | 1.47(1)   |
| C(11) | C(12) | 1.50(1)   | C(12) | C(13) | 1.38(1)   |
| C(12) | C(17) | 1.39(1)   | C(13) | C(14) | 1.39(1)   |
| C(14) | C(15) | 1.36(1)   | C(15) | C(16) | 1.36(1)   |
| C(16) | C(17) | 1.39(1)   |       |       |           |

Table 4. Bond Lengths(Å)

| atom  | atom  | distance | atom  | atom  | distance |
|-------|-------|----------|-------|-------|----------|
| N(3)  | H(8)  | 0.95     | C(1)  | H(1)  | 0.95     |
| C(2)  | H(2)  | 0.95     | C(3)  | H(3)  | 0.96     |
| C(8)  | H(4)  | 0.96     | C(8)  | H(5)  | 0.94     |
| C(11) | H(6)  | 0.95     | C(11) | H(7)  | 0.95     |
| C(14) | H(9)  | 0.96     | C(16) | H(10) | 0.97     |
| C(17) | H(11) | 0.97     |       |       |          |

Table 5. Bond Angles(°)

| atom  | atom  | atom  | angle    | atom  | atom  | atom  | angle    |
|-------|-------|-------|----------|-------|-------|-------|----------|
| C(1)  | N(1)  | C(4)  | 108.5(6) | C(1)  | N(1)  | C(7)  | 128.3(6) |
| C(4)  | N(1)  | C(7)  | 123.1(6) | C(5)  | N(2)  | C(6)  | 123.7(7) |
| C(5)  | N(2)  | C(11) | 117.8(6) | C(6)  | N(2)  | C(11) | 118.4(7) |
| C(9)  | N(3)  | C(10) | 114.2(7) | N(1)  | C(1)  | C(2)  | 108.2(7) |
| C(1)  | C(2)  | C(3)  | 108.5(8) | C(2)  | C(3)  | C(4)  | 107.7(7) |
| N(1)  | C(4)  | C(3)  | 107.1(7) | N(1)  | C(4)  | C(5)  | 121.6(7) |
| C(3)  | C(4)  | C(5)  | 131.3(7) | O(1)  | C(5)  | N(2)  | 118.3(7) |
| O(1)  | C(5)  | C(4)  | 124.9(7) | N(2)  | C(5)  | C(4)  | 116.8(6) |
| O(2)  | C(6)  | N(2)  | 123.9(8) | O(2)  | C(6)  | C(7)  | 117.3(7) |
| N(2)  | C(6)  | C(7)  | 118.6(7) | N(1)  | C(7)  | C(6)  | 113.5(6) |
| N(1)  | C(7)  | C(8)  | 114.4(6) | N(1)  | C(7)  | C(10) | 112.1(6) |
| C(6)  | C(7)  | C(8)  | 111.0(6) | C(6)  | C(7)  | C(10) | 102.0(6) |
| C(8)  | C(7)  | C(10) | 102.6(6) | C(7)  | C(8)  | C(9)  | 105.9(7) |
| O(3)  | C(9)  | N(3)  | 123.6(9) | O(3)  | C(9)  | C(8)  | 127.6(8) |
| N(3)  | C(9)  | C(8)  | 108.8(7) | O(4)  | C(10) | N(3)  | 127.4(8) |
| O(4)  | C(10) | C(7)  | 125.3(7) | N(3)  | C(10) | C(7)  | 107.2(6) |
| N(2)  | C(11) | C(12) | 111.4(6) | C(11) | C(12) | C(13) | 119.4(7) |
| C(11) | C(12) | C(17) | 125.3(7) | C(13) | C(12) | C(17) | 115.3(7) |
| F     | C(13) | C(12) | 116.5(7) | F     | C(13) | C(14) | 118.6(8) |
| C(12) | C(13) | C(14) | 124.9(8) | C(13) | C(14) | C(15) | 116.8(8) |
| Br    | C(15) | C(14) | 118.9(6) | Br    | C(15) | C(16) | 119.3(7) |
| C(14) | C(15) | C(16) | 121.7(8) | C(15) | C(16) | C(17) | 120.0(8) |
| C(12) | C(17) | C(16) | 121.2(8) |       |       |       |          |

Table 6. Bond Angles(°)

| atom  | atom  | atom  | angle | atom  | atom  | atom  | angle |
|-------|-------|-------|-------|-------|-------|-------|-------|
| C(9)  | N(3)  | H(8)  | 123.2 | C(10) | N(3)  | H(8)  | 122.5 |
| N(1)  | C(1)  | H(1)  | 126.7 | C(2)  | C(1)  | H(1)  | 125.1 |
| C(1)  | C(2)  | H(2)  | 125.5 | C(3)  | C(2)  | H(2)  | 126.0 |
| C(2)  | C(3)  | H(3)  | 126.5 | C(4)  | C(3)  | H(3)  | 125.8 |
| C(7)  | C(8)  | H(4)  | 109.7 | C(7)  | C(8)  | H(5)  | 111.4 |
| C(9)  | C(8)  | H(4)  | 109.9 | C(9)  | C(8)  | H(5)  | 110.4 |
| H(4)  | C(8)  | H(5)  | 109.4 | N(2)  | C(11) | H(6)  | 108.9 |
| N(2)  | C(11) | H(7)  | 108.1 | C(12) | C(11) | H(6)  | 109.7 |
| C(12) | C(11) | H(7)  | 109.1 | H(6)  | C(11) | H(7)  | 109.6 |
| C(13) | C(14) | H(9)  | 122.7 | C(15) | C(14) | H(9)  | 120.5 |
| C(15) | C(16) | H(10) | 120.3 | C(17) | C(16) | H(10) | 119.7 |
| C(12) | C(17) | H(11) | 118.3 | C(16) | C(17) | H(11) | 120.5 |

Table 7. Torsion Angles(°)

| atom | atom  | atom  | atom  | angle     | atom | atom  | atom  | atom  | angle     |
|------|-------|-------|-------|-----------|------|-------|-------|-------|-----------|
| Br   | C(15) | C(14) | C(13) | -177.9(6) | Br   | C(15) | C(16) | C(17) | 177.2(7)  |
| F    | C(13) | C(12) | C(11) | 0(1)      | F    | C(13) | C(12) | C(17) | 179.4(7)  |
| F    | C(13) | C(14) | C(15) | -178.5(7) | O(1) | C(5)  | N(2)  | C(6)  | -174.9(7) |
| O(1) | C(5)  | N(2)  | C(11) | 1(1)      | O(1) | C(5)  | C(4)  | N(1)  | -176.3(7) |
| O(1) | C(5)  | C(4)  | C(3)  | 1(1)      | O(2) | C(6)  | N(2)  | C(5)  | 168.3(7)  |
| O(2) | C(6)  | N(2)  | C(11) | -7(1)     | O(2) | C(6)  | C(7)  | N(1)  | -166.4(7) |
| O(2) | C(6)  | C(7)  | C(8)  | -36.0(9)  | O(2) | C(6)  | C(7)  | C(10) | 72.8(8)   |
| O(3) | C(9)  | N(3)  | C(10) | 178.2(9)  | O(3) | C(9)  | C(8)  | C(7)  | -171.3(9) |
| O(4) | C(10) | N(3)  | C(9)  | 176.3(8)  | O(4) | C(10) | C(7)  | N(1)  | -48(1)    |
| O(4) | C(10) | C(7)  | C(6)  | 72.9(9)   | O(4) | C(10) | C(7)  | C(8)  | -172.1(8) |
| N(1) | C(1)  | C(2)  | C(3)  | -2.3(10)  | N(1) | C(4)  | C(3)  | C(2)  | 0.1(9)    |
| N(1) | C(4)  | C(5)  | N(2)  | 1(1)      | N(1) | C(7)  | C(6)  | N(2)  | 19.2(9)   |
| N(1) | C(7)  | C(8)  | C(9)  | -132.3(7) | N(1) | C(7)  | C(10) | N(3)  | 133.5(7)  |
| N(2) | C(5)  | C(4)  | C(3)  | -179.8(8) | N(2) | C(6)  | C(7)  | C(8)  | 149.6(7)  |
| N(2) | C(6)  | C(7)  | C(10) | -101.6(7) | N(2) | C(11) | C(12) | C(13) | -167.2(7) |
| N(2) | C(11) | C(12) | C(17) | 13(1)     | N(3) | C(9)  | C(8)  | C(7)  | 7.8(9)    |
| N(3) | C(10) | C(7)  | C(6)  | -104.7(7) | N(3) | C(10) | C(7)  | C(8)  | 10.3(8)   |
| C(1) | N(1)  | C(4)  | C(3)  | -1.5(9)   | C(1) | N(1)  | C(4)  | C(5)  | 177.0(7)  |
| C(1) | N(1)  | C(7)  | C(6)  | 173.8(7)  | C(1) | N(1)  | C(7)  | C(8)  | 45(1)     |
| C(1) | N(1)  | C(7)  | C(10) | -71.2(9)  | C(1) | C(2)  | C(3)  | C(4)  | 1.4(10)   |
| C(2) | C(1)  | N(1)  | C(4)  | 2.4(9)    | C(2) | C(1)  | N(1)  | C(7)  | 177.7(7)  |
| C(2) | C(3)  | C(4)  | C(5)  | -178.3(8) | C(3) | C(4)  | N(1)  | C(7)  | -177.1(7) |
| C(4) | N(1)  | C(7)  | C(6)  | -11.6(10) | C(4) | N(1)  | C(7)  | C(8)  | -140.2(7) |
| C(4) | N(1)  | C(7)  | C(10) | 103.4(8)  | C(4) | C(5)  | N(2)  | C(6)  | 6(1)      |



Table 7. Torsion Angles(°) (continued)

| atom  | atom  | atom  | atom  | angle     | atom  | atom  | atom  | atom  | angle    |
|-------|-------|-------|-------|-----------|-------|-------|-------|-------|----------|
| C(4)  | C(5)  | N(2)  | C(11) | -177.2(7) | C(5)  | N(2)  | C(6)  | C(7)  | -17(1)   |
| C(5)  | N(2)  | C(11) | C(12) | 76.9(9)   | C(5)  | C(4)  | N(1)  | C(7)  | 1(1)     |
| C(6)  | N(2)  | C(11) | C(12) | -106.9(8) | C(6)  | C(7)  | C(8)  | C(9)  | 97.7(8)  |
| C(7)  | C(6)  | N(2)  | C(11) | 166.3(7)  | C(7)  | C(10) | N(3)  | C(9)  | -6.2(9)  |
| C(8)  | C(9)  | N(3)  | C(10) | 0(1)      | C(9)  | C(8)  | C(7)  | C(10) | -10.6(8) |
| C(11) | C(12) | C(13) | C(14) | 179.5(8)  | C(11) | C(12) | C(17) | C(16) | 179.6(8) |
| C(12) | C(13) | C(14) | C(15) | 1(1)      | C(12) | C(17) | C(16) | C(15) | 0(1)     |
| C(13) | C(12) | C(17) | C(16) | 0(1)      | C(13) | C(14) | C(15) | C(16) | -1(1)    |
| C(14) | C(13) | C(12) | C(17) | -1(1)     | C(14) | C(15) | C(16) | C(17) | 1(1)     |

Table 8. Non-bonded Contacts out to 3.60 Å

| atom | atom  | distance  | ADC   | atom | atom  | distance  | ADC   |
|------|-------|-----------|-------|------|-------|-----------|-------|
| Br   | O(3)  | 3.513(8)  | 54504 | Br   | N(3)  | 3.581(8)  | 54404 |
| Br   | F     | 3.590(6)  | 44402 | F    | C(16) | 3.13(1)   | 55601 |
| F    | C(14) | 3.16(1)   | 44502 | F    | C(15) | 3.194(10) | 44502 |
| F    | C(17) | 3.217(10) | 55601 | O(1) | N(3)  | 2.898(9)  | 44503 |
| O(1) | O(4)  | 3.448(8)  | 44503 | O(1) | C(10) | 3.47(1)   | 44503 |
| O(2) | O(4)  | 3.207(9)  | 55601 | O(2) | C(1)  | 3.28(1)   | 55601 |
| O(2) | C(3)  | 3.336(10) | 54503 | O(2) | C(10) | 3.46(1)   | 55601 |
| O(3) | C(1)  | 3.34(1)   | 45502 | O(3) | C(8)  | 3.50(1)   | 45402 |
| O(3) | C(8)  | 3.60(1)   | 45502 | O(4) | C(2)  | 3.41(1)   | 54403 |
| O(4) | C(11) | 3.50(1)   | 55401 | N(2) | C(2)  | 3.50(1)   | 55601 |
| C(1) | C(6)  | 3.56(1)   | 55401 | C(2) | C(12) | 3.44(1)   | 44503 |
| C(2) | C(17) | 3.52(1)   | 44503 | C(2) | C(11) | 3.59(1)   | 55401 |