DIPYRIDAZO[4, 5-b:4, 5-e]-1, 4-DITHIINS AND DIPYRIDAZOSULFIDES

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Reaction of N-substituted 4, 5-dichloropyridaz-6-ones with ammonium thiocyanate gives the corresponding dipyridazo[4, 5-b:4, 5-e]-1, 4-thiins:1-phenyl-, yield 93%, mp >350° C. Found: C 59.49; H 2.76; N 13.74; S 15.42%. Calculated for $C_{20}H_{12}N_4O_2S_2$: C 59.88; H 3.00; N 13.85; S 15.86%: not substituted at N, yield 88%, mp > 350° C. Found: C 38.20; H 1.90; N 22.23; S 25.80%. Calculated for $C_8H_4N_4O_2S_2$: C 38.08; H 1.60; N 22.21; S 25.49%. N-Substituted 3, 5- and 3, 4-dichloro derivatives of pyridaz-6-one give the corresponding dipyridazosulfides: di(1-phenyl-3-chloropyridaz-6-one)-5, 5'-disulfide, 70% yield, mp 297°–298° C (decomp). Found: C 53.97; H 2.99; N 12.77%. Calculated for $C_{20}H_{12}N_4O_2Cl_2S$: C 54.17; H 2.73; N 12.64%; di(1-phenyl-3-chloropyridaz-6-one)-4, 4'-sulfide, 24% yield, mp 316°–317° C. Found: C 54.12; H 3.09; N 12.97%. Calculated for $C_{20}H_{12}N_4O_2Cl_2S$: C 54.17; H 2.73; N 12.64%.

1-Phenyl-3-chloropyridaz-6-one does not react with ammonium thiocyanate. The structures of the compounds prepared were proved by synthesis from pyridaz-6-one dichloro derivatives and Na hydrosulfite [1, 2], and using IR and PMR spectra.

They stimulate plant growth, and are herbicides. Research in the field is being continued.

REFERENCES

1. R. Castle and K. Kaji, Naturwiss., 51, 38, 1964.

2. R. Castle and K. Kaji, J. Heterocycl. Chem., 2, 463, 1965.

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