The N-heterocycles are of considerable importance in view of their presence in several biological systems. Benzimidazole derivatives and their metal complexes exhibit anti-bacterial, veterinary, anti-helmintic, insecticidal and virucidal activities. Multidentate N-heterocycles produce organized supramolecules on coordination to metal ions and they appear quite promising for the design of stable light conversion devices. In this direction, some of the multidentate N-heterocycles and their complexes have been prepared and characterized. As part of our continuing research in the field of syntheses of nitrogen-containing heterocyclic ligands and their metal complexes with palladium and rhodium, we are reporting here the synthesis and crystal structure of 6-pyridyl-5,6-dihydrobenzo[4,5]-imidazo[1,2-c]quinazoline. The synthesised ligand was characterized by physical, spectral and single crystal X-ray structural analyses.

\[ \text{Formula: } \text{C}_{19} \text{H}_{14} \text{N}_{4} \]

The title compound \( \text{C}_{19} \text{H}_{14} \text{N}_{4} \) was synthesised and the structure was investigated by X-ray crystallography. It crystallizes in the monoclinic space group \( P2_1/c \) with cell parameters \( a = 8.697(9) \text{Å}, b = 13.045(10) \text{Å}, c = 13.271(4) \text{Å}, \beta = 97.38(4)^\circ \) and \( Z = 4 \). The final residual factor is 0.0628.

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molecule with thermal ellipsoids at 50% probability. The structure does not exhibit intra- or inter-molecular hydrogen bonds. The heterocyclic ring of the molecule is planar with a maximum deviation of $-0.150(4)\,\AA$ for N16 from the plane (N14, N16, C5, C6, C15, C17). The angle between the fused ring plane (N7, N14, N16, C1, C2, C3, C4, C5, C6, C8, C9, C10, C11, C12, C13, C15, C17) and the ring plane (N23, C18, C19, C20, C21, C22) is $87.4(2)^\circ$, which determines the conformation of the junction C15-C18. The packing diagram of the molecule along the $c$ axis shows a stacked structure.

### References