**Synthesis, characterization and in vitro activities of aniline dithiocarbamate crystals**

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One pot synthesis was used to prepare aniline dithiocarbamate from aniline, carbon(IV) sulfide and sodium hydroxide [1]. Aniline dithiocarbamate crystals (ai-dtc; C₇H₁₂NNaO₃S₂) which grew from solution were washed with diethyl ether, and subjected to single x-ray crystallography. The crystals were collected and mounted on a four circles diffractometer Gemini of Oxford Diffraction, using a graphite monochromated CuKα radiation (λ = 1.54184 Å). Super flip program was used to solve the crystal structure; while refinement was done using full matrix least-squares technique with the support of Jana 2006. The resulting synthetic crystalline structure (Figure 1) appeared as crystalline polymolecule (Figure 2) which has crystal data with three dimensions of a= 2.8663(4) Å, b=6.9 386 (3) Å and c=11.3127 (3) Å. Other characterization techniques of physicochemical parameters, FT-IR, UV-Vis and NMR further confirmed ai-dtc structure. [2] For the in vitro antibacterial studies, ai-dtc was screened against four bacterial strains (Staphylococcus aureus MRSA252, Enterococcus faecalis ATCC 19433, Escherichia coli MC4100 and Pseudomonas aeruginosa PAO1). Result showed that ai-dtc had modest activity against Staphylococcus aureus [2].

![Figure 1: C₇H₁₂NNaO₃S₂ crystal structure](image1)

![Figure 2: C₇H₁₂NNaO₃S₂ polymolecule.](image2)


Keywords: One pot synthesis, dithiocarbamates crystals; polymers; single x-ray crystallography; antibacterial activities

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