Study the partial substitution and annealing on structure and electrical properties of compounded $\text{Tl}_{2-x}\text{Ag}_x\text{Sr}_2\text{BayCa}_2\text{Cu}_3\text{O}_{10+\delta}$ superconductor fabrication by nano-technique

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In the present paper, we have prepared samples of high temperature superconductors namely $\text{Tl}_{2-x}\text{Ag}_x\text{Sr}_2\text{BayCa}_2\text{Cu}_3\text{O}_{10+\delta}$ using solid state reaction, and nano-technique for different concentration of $(x, y=0.1, 0.2, 0.3, 0.4, 0.5)$ and compressing by hydraulic at 8 ton/cm$^2$ also annealing samples at 850˚C. The samples have been characterized resistivity measurements using the electrical resistively measurement. At $x, y=0.3$ ratio of Ag, Be give a best value of $T_c=142$ K. The morphology of the samples obtained by AFM in three dimensions views four samples after annealing treatment. Also give a best Nano size value is 94.74 nm at $x, y=0.3$. The structure of surface morphology of the samples was studied by SEM. The results of EDX image demonstrated that there is not unwanted element.

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