







radiation and is compared to the identical size as a reference material with potassium Dihydrogen phosphate (KDP) is 210nm. The NLO efficiency of doped sample was observed 1.5 times the standard KDP and is given in Table 2. There is no emission of green radiation for undoped sample. It can be seen that the dopant modifies some NLO property to the grown sample.

**Table 2:** Measured SHG efficiency of the grown crystals.

Crystal	SHG efficiency	Efficiency with respect to KDP
Pure SA	138	0.98 (~1.000)
FeCl <sub>2</sub> doped SA	210	1.500
KDP	140	1.000

## 5. Conclusion

In the present study Single crystals of pure and FeCl<sub>2</sub> doped SA were grown by slow evaporation solution growth technique (SEST) from aqueous solution at a constant temperature. The structure of grown crystals has been confirmed by using powder X-ray diffraction studies. The FTIR spectra indicate functional groups and the incorporation of Fe<sup>2+</sup> ion to the Sulphamic acid occurs through the N ligand in Sulphamic acid at 3138 cm<sup>-1</sup>. The transmittance of electromagnetic radiation is studied through UV-Visible Spectrum and the lower cut off wavelength was found to be 231 nm. The NLO efficiency of doped sample was observed 1.5 times the standard KDP was confirmed by the Second Harmonic Generation (SHG) studies using Nd: YAG laser.

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