**Highlights**

* LVLVPM, a nonlinear optical crystal was grown by slow evaporation technique at room temperature.
* It has wide optical transparency from 251 nm to 1200 nm.
* The band gap of the LVLVPM crystal was found to be 4.76 eV.
* Thermally stable up to 235οC without thermal damage.
* An efficient semi-organic nonlinear optical material for photonics applications.