

Supplementary information

1.) α -GaN nanopillars

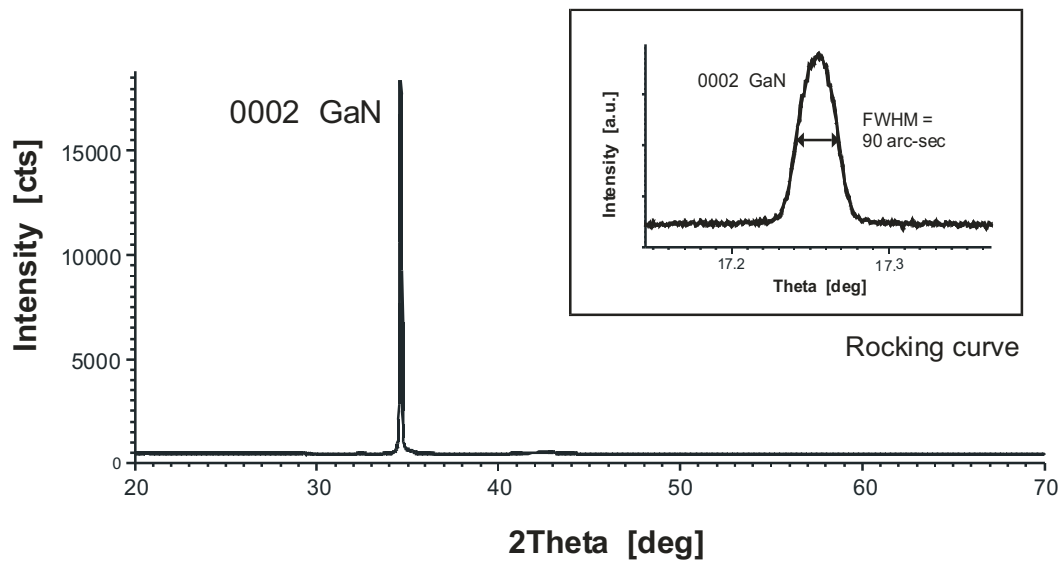


Fig. 1) Diffractogram and rocking curve (inset) of the α -GaN nanopillars.

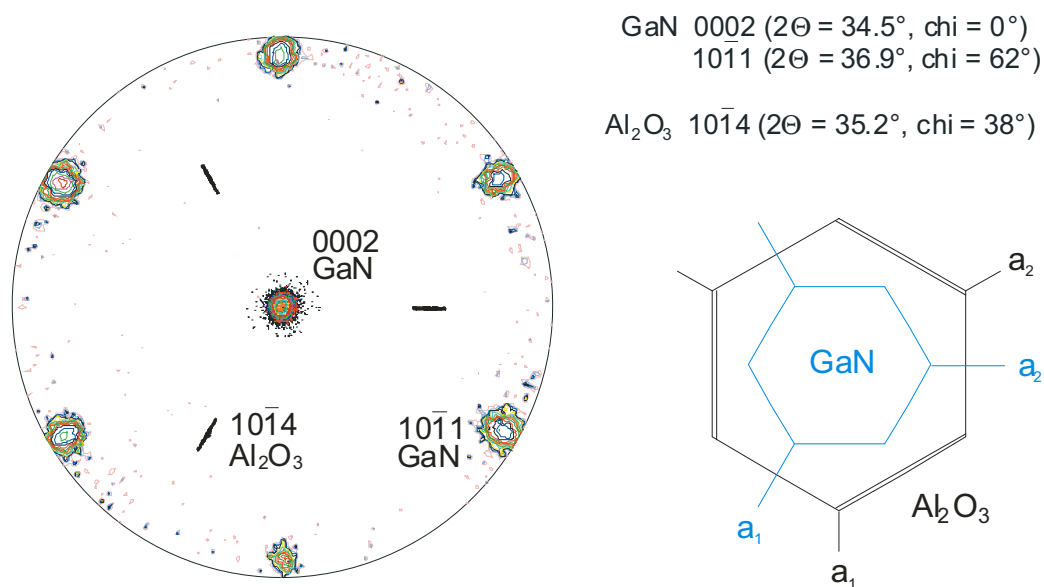


Fig. 2) Pole figure measurement of the (0002) and (10 $\bar{1}$ 1) reflections of the α -GaN nanopillars and the (10 $\bar{1}$ 4) reflection of the (0001)-Al₂O₃ substrate.

2.) α -GaN nanowires using $(\text{N}_3)_2\text{Ga}[(\text{CH}_2)_3\text{NMe}_2]$ and H_2

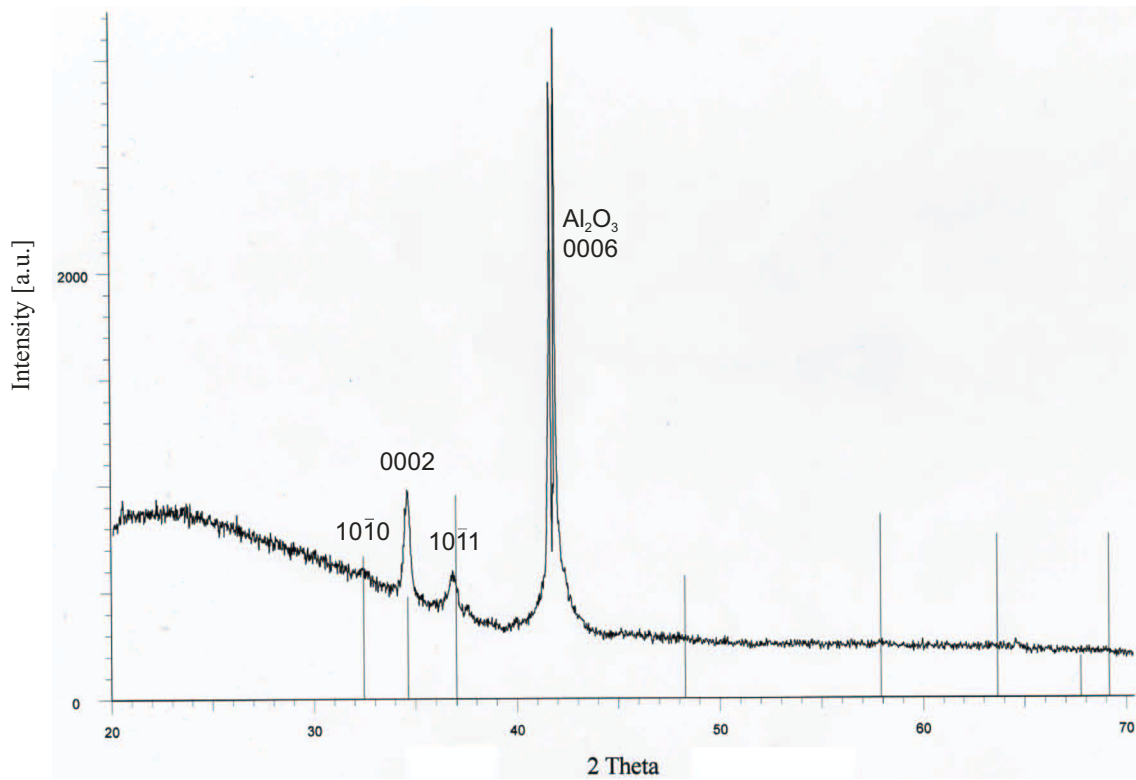


Fig. 3) Diffractogram of the α -GaN nanowires.

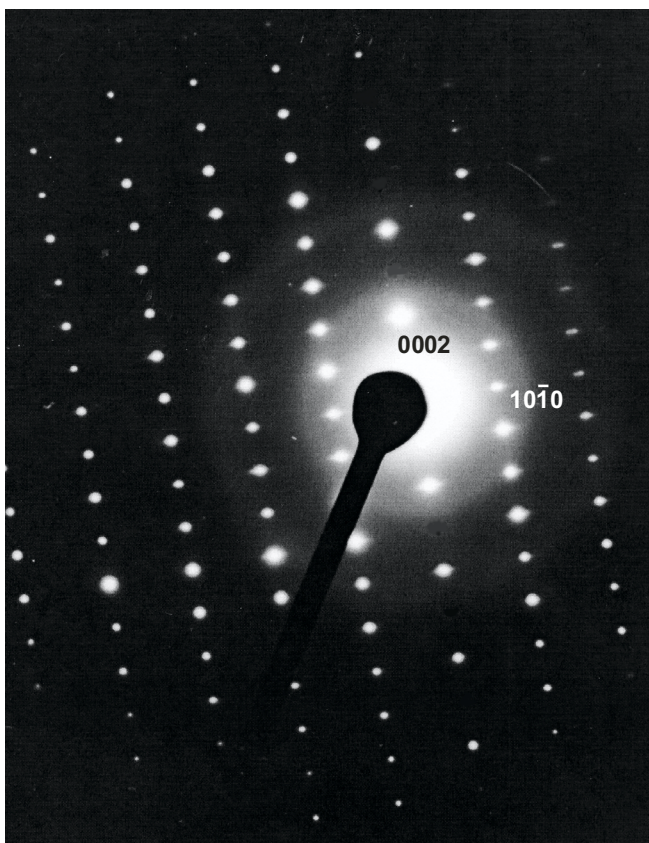


Fig. 4) SAED pattern of the α -GaN nanowires

3.) α -GaN nanowires using Ga and NH_3

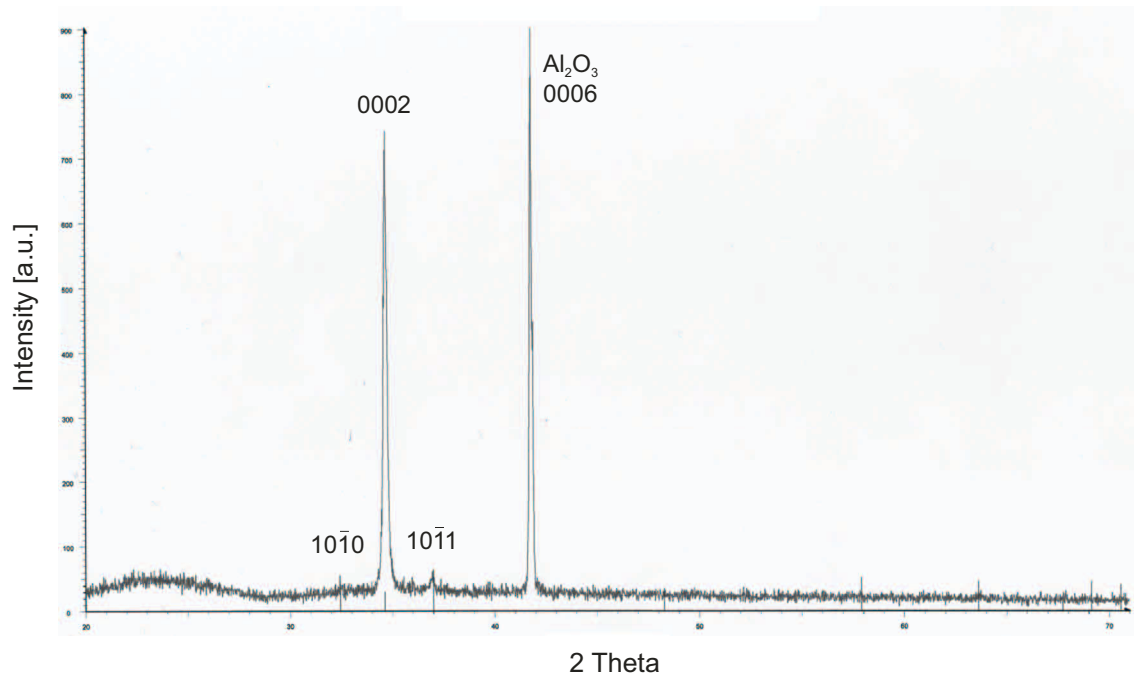


Fig. 5) Diffractogram of the α -GaN nanowires grown by direct reaction of Ga and NH_3 .

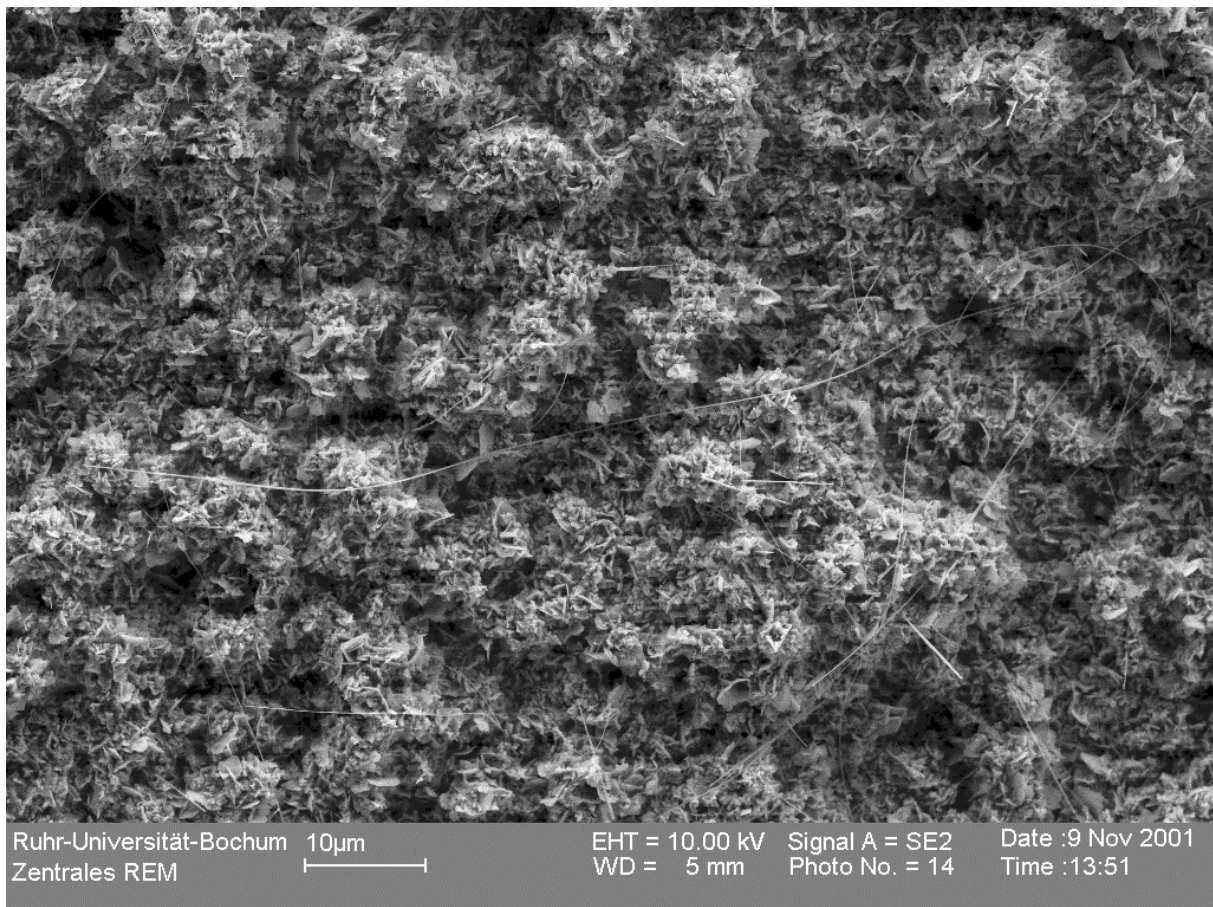


Fig. 6) SEM of the α -GaN nanowires.

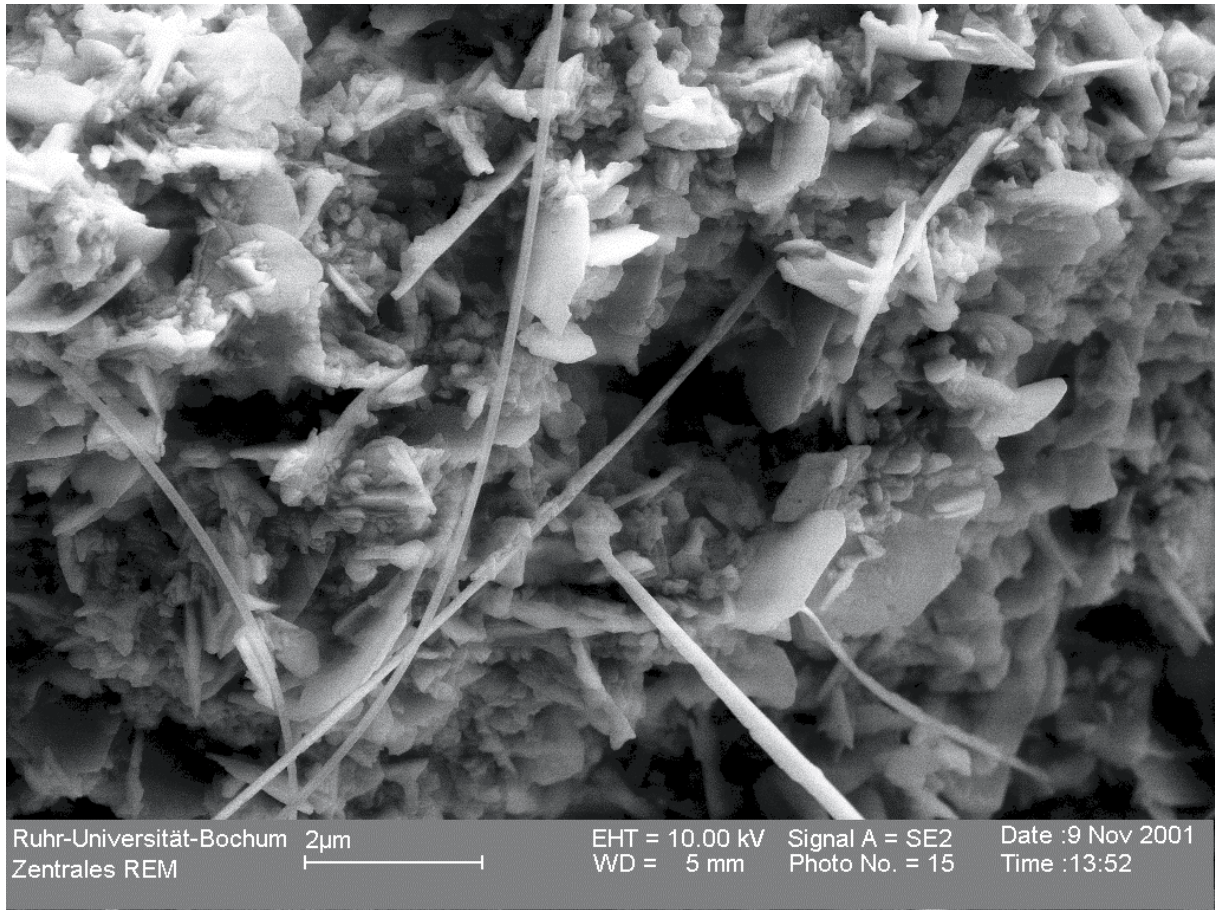


Fig. 7) SEM of the α -GaN nanowires.