Analyze Crystalline Phase of Graphite Based Corncobs

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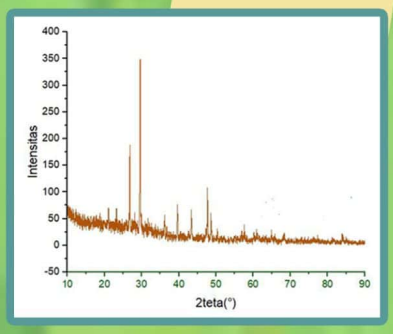
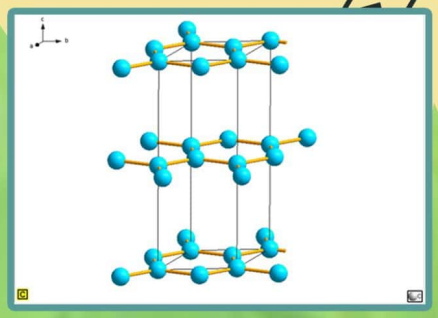


Figure 1 X-ray diffraction pattern of calcination corn cob at temperature of 400°C



P 63 m c (186) - hexagonal Graphite

1 Abstract

The corn plant has several parts. One of them is the cob. Corn cobs as waste have not been utilized optimally by the community. Whereas corn cobs have great potential to become a crystalline phase of graphite which has important benefits for the industrial world. In this study, to obtain the crystalline phase of graphite, corn cobs were synthesized by precipitation and calcination methods at a temperature of 400°C. The results of the synthesis of corn cobs have a crystalline phase, namely graphite with a hexagonal crystal structure with lattice parameters a = 2.491 Å, b = 2.491 Å, and c = 6.537 Å.

2 Methods

Corncobs → precipitation process ($(HCl+NH_4OH)$) → Calcination at a temperature of 400°C → characterize X-ray Diffraction

3 Conclusion

The results of the synthesis of corn cobs have a crystalline phase, namely graphite with a hexagonal crystal structure with lattice parameters a = 2.491 Å, b = 2.491 Å, and c = 6.537 Å.