The doping of nitrogen to carbon can be improved the conductivity and leads to a reversible pseudocapacitive reaction with the electrolyte, so that the specific capacitance of the carbon is improved. Therefore, there are many reports on improving capacitance by nitrogen doping. Nitrogen-doped porous carbon was prepared from $FeCl_3$ and penta-ethylene-hex-amine (PEHA) as a carbon and nitrogen source in this study. In this synthesis process, $FeCl_3$ was applied as a catalyst to promote graphitization. Carbonization was carried out at a temperature of 500 to 1000 ^oC for 3 min, then iron and iron compounds were removed by acid treatment.

It was found that the crystallinity was improved by heat treatment and became remarkable at 850 ^oC. It was recognized mesopores developed from the micropores due to the improvement of the crystallinity and became remarkable at 850 ^oC.

Nitrogen-doped carbon prepared at 900 ^oC showed a BET surface area of 290 m^2/g and had many mesopores, which shown relatively high crystallinity and high nitrogen content (4.2 %). When the obtained carbon material was applied as an electrode material for EDLC in 40 % H_2SO_4 electrolyte, the capacitance under the condition of current density of 50 mA /g was 0.66 F per unit area, although it was 190 F per weight. The capacitance per unit area was much higher than that of activated carbon. The presence of nitrogen has been suggested to lead to pseudocapacitance and to improve the specific capacitance of the carbon.