

Abstract

The present disclosure provides an electrode assembly for a fuel cell without a proton exchange membrane, a preparation method thereof, and a fuel cell, and belongs to the technical field of fuel cells. The electrode assembly comprises a polymer electrolyte layer, a negative pole catalyst layer and a positive pole catalyst layer located on two surfaces of the polymer electrolyte layer, and a negative pole diffusion layer located on the negative pole catalyst layer away from the polymer electrolyte layer, and a positive pole diffusion layer located on the positive pole catalyst layer away from the polymer electrolyte layer, wherein the polymer electrolyte layer is grown on the negative pole catalyst layer or/and the positive pole catalyst layer. A material of the polymer electrolyte layer of this electrode assembly only contains a polymer electrolyte, and a separate conventional proton exchange membrane does not need to be provided, thus the problem of swelling of the proton exchange membrane under high temperature conditions is overcome.