



SDI FINAL EVALUATION FORM 1.1

PART 1:

Journal Name:	International Research Journal of Pure and Applied Chemistry
Manuscript Number:	2014_IRJPAC_10924
Title of the Manuscript:	Synthesis, characterization and electrochemical studies on $\text{Li}_4\text{Fe}(\text{CN})_6$ as cathode material for Li-ion batteries
Type of the Article	Original Research Article

PART 2:

FINAL EVALUATOR'S comments on revised paper (if any)	Authors' response to final evaluator's comments
1. Still I am not happy with the answer given for the difference between lithium battery and lithium ion battery? Do you think that lithium battery is pri. Battery. I am wondering with the answer. Try to improve the quality of the answer. 2. What is the effect of using two different C sources to make electrode. If you are using carbon block, what is the effect on battery performances? 3. Try to take the XRD pattern in slow scan. Or smoothen the graph to get good xrd pattern.	1. Lithium batteries are those batteries that have lithium metal as anode and lithiated or non-lithiated compounds as cathode materials. It may be primary or secondary battery. Whereas, lithium-ion batteries contain lithium composite materials as cathode and anodes are mesoporous carbon, porous graphite or like that in which lithium ion can enter during the charging process and come out during the discharge process. So according to this definition, the title changed from 'lithium-ion battery' to 'lithium battery'. 2. The majority of cathode materials are prepared using carbon black, acetylene black, carbon nanotubes (CNT) or graphene to improve the electronic conductivity of the electrode. These carbonaceous materials vary in purity, particle size, morphology, and conductivity depending on the manufacturing processes and the carbonaceous sources. In general, carbon black has a spherical shape with a relatively high specific surface area, and it is primarily used for nanosized cathode materials in lithium ion batteries to cover a large surface of active particles. However, graphite has a platelet-like shape with a lower specific surface area. Although, the lubricating characteristics of the platelet graphite create new surface area and provide more contact with the active particles during the ball-milling process, whereas the spherical nanosized carbon black self-agglomerates. The physicochemical properties of the employed carbon control the homogeneity between the active cathode material and carbon, the porosity of the composite, and consequently, the total conductivity of the cathode. The combination of the pristine characteristics of carbon and a mixing method to create the composite affect the structure of the cathode composite, which affects the performance of the battery. 3. The XRD graph has been smoothened.