

Review Form 1.7

Journal Name:	International Research Journal of Pure and Applied Chemistry
Manuscript Number:	Ms_IRJPAC_95322
Title of the Manuscript:	Physicochemical properties of Soda and Kraft lignin extracted from Gmelina arborea wood
Type of the Article	Original Research Article

General guideline for Peer Review process:

This journal's peer review policy states that **NO** manuscript should be rejected only on the basis of '**lack of Novelty**', provided the manuscript is scientifically robust and technically sound. To know the complete guideline for Peer Review process, reviewers are requested to visit this link:

(<https://www.journalirjpac.com/index.php/IRJPAC/editorial-policy>)

Review Form 1.7

PART 1: Review Comments

	Reviewer's comment	Author's comment (if agreed with reviewer, correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)
<p>Compulsory REVISION comments</p> <ol style="list-style-type: none"> 1. Is the manuscript important for scientific community? (Please write few sentences on this manuscript) 2. Is the title of the article suitable? (If not please suggest an alternative title) 3. Is the abstract of the article comprehensive? 4. Are subsections and structure of the manuscript appropriate? 5. Do you think the manuscript is scientifically correct? 6. Are the references sufficient and recent? If you have suggestion of additional references, please mention in the review form. <p>(Apart from above mentioned 6 points, reviewers are free to provide additional suggestions/comments)</p>		
<p>Minor REVISION comments</p> <ol style="list-style-type: none"> 1. Is language/English quality of the article suitable for scholarly communications? 	<p>The article proposed by the author is well written and give good and interesting results regarding the potential utilization of <i>Gmelina arborea</i> lignin. The authors used classical physiochemical methods for Kraft and Soda lignin examination. The results proposed complete all the other results previously published in this wood for they compared the behaviour or that wood lignin submitted to the two major industrial lignin extraction methods. However, some minor corrections are necessary to complete this paper.</p> <p>Line 2: the botanical name of the wood should be <i>Gmelina arborea</i> (Roxb. ex. Sm)</p> <p>Introduction</p> <p>Line 27: Correct the sentence as suggested "It is a heterogeneous polymer that composed of three types of phenyl propane monomeric units"</p> <p>Lines 28, 53, 74-76 : The reference should be numbered by increasing alphabetic order for the same year, and by increasing year in case of differences on author first name letters. I suggest the authors to correct the order as follow: (Upton and Kasko, 2016; Zakzeski <i>et al.</i>, 2016), and so that in all the text.</p> <p>Line 32-33: The authors claimed that "Equal amounts of coniferyl and sinapyl units are present in hardwood lignin..." No, the S and G units are not systematically equal in a hardwood lignin. The S and G units are present, but their content varies in a tree in between trees (inter trees variability).</p> <p>Line 33: Delete the dash in the sentence "(Khaldi-Hansen and Kamm, 2016)"</p> <p>Line 68: Change dibenzodioxocin (5-50) by-dibenzodioxocin (5-5)</p> <p>Lines 69-70: Check the necessity of the sentence "The physicochemical properties of lignin from <i>Chromolaena odorata</i> and <i>Tithonia diversifolia</i> have also been reported (Nwosu and Muzakir, 2015)."</p> <p>Material and methods</p> <p>Line 86: The authors should give the GPS coordinate of the tree (in they have this data).</p> <p>Line 89: The authors wrote "Lignin was extracted from the <i>Gmelina arborea</i> wood chips...". Did the authors can say what part of the wood xylem was used? The sapwood and heartwood or the heartwood chips only?</p> <p>Line 111: The author wrote "Where w_1= weight of the sample (g)". Did the sample were dried, in case, at which temperature and for how long? Did you measured the dried mass with a balance? In case correct the Percentage yield (%) of line 110.</p>	

Review Form 1.7

	<p>Line 112: The authors wrote “w_2 = weight of the lignin (g)”. Did the lignin was dried? In case, w_2 should be the mass of dried lignin.</p> <p>Line 125-127: I suggest the author to suppress the sentence “UV-spectroscopy offers a simple and reliable way of determining phenolic hydroxyl groups present in lignin. This technique is based on the difference in the absorption between lignin in alkaline and in neutral solution”</p> <p>Lines 127 and 129: I suggest the author to harmonize, ml or mL, and so that in all the text.</p> <p>Line 154: I suggest the authors to correct the sentence as follows: “The monomeric and dimeric units”</p> <p>3.0 Results and Discussion</p> <p>Line 167: The authors used KL and SL without previous abbreviation. Previous explication are necessary of Kraft lignin (KL) and Soda lignin (SL), and harmonize in all the text.</p> <p>Line 174: The authors wrote “P. ponderosa”, please write the entire botanical name of the wood for it was not cited before.</p> <p>I suggest the authors to superimpose the two figures a unique caption. Keep the most significant wavenumbers and delete others (major information is given in Table 1)</p> <p>Line 229: check properly the wavenumber “0.229 mmol/g and 1.850 mmol/g..”</p> <p>Fig. 6 and 7 should be clear and properly given. They could be superimposed and put in the same scale for a convenient interpretation.</p>	
<p>Optional/General comments</p>		

PART 2:

	<p>Reviewer’s comment</p>	<p>Author’s comment (if agreed with reviewer, correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)</p>
<p>Are there ethical issues in this manuscript?</p>	<p><i>(If yes, Kindly please write down the ethical issues here in details)</i></p>	

Reviewer Details:

<p>Name:</p>	<p>Safou Tchiama Rorigue</p>
<p>Department, University & Country</p>	<p>Gabon</p>