Author's response to reviews

Title: Antioxidant activities and phenolic contents of the methanol extracts of the stems of Acokanthera oppositifolia and Adenia gummifera.

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Author's response to reviews: see over
Covering letter (BMC)
Reacting to the comments of the reviewers.

**Reviewer 1: (Fehmi Odabasoglu)**

Abstract
All the concerns raised by the reviewer with respect to the abstract have been addressed as shown in line 1-2 under method. The full names of ABTS, DPPH, and FRAP have also been written. This is shown in line 6-8.

Introduction (Background)
Lines 3-6 (page 3) have been revised in line with the reviewer’s comments.
Lines 1, 5-6, 9 and 14 (page 4), have been reviewed accordingly.
Lines 5, 8, 11-12 (page 5) have also been corrected in line with the reviewer’s suggestion.

Materials and Methods.
(Plant collection)
Line 2 (page 5): I think it is better to describe the geographical location as latitude rather than altitude that the reviewer suggested. I have stuck to latitude but if the Editor prefers altitude so let it be.
Lines 3 and 4 (page 6): The temperature at which the plants were extracted i.e. room temperature has been indicated.
(Determination of total phenolics)
Lines 1, 2, and 5 (page 6) and line 1 (page 7) have been corrected.
(Determination of total flavonoids)
Lines 1, 2, 3, and 7 (page 7) have been corrected.
(ABTS radical scavenging assay)
Lines 6-7 (page 8) have also been corrected in line with the reviewer’s suggestions.
(DPPH radical scavenging assay)
Line 1 (page 9) has been corrected.
(Total antioxidant activity-FRAP assay)
Line 2 (page 9) has been corrected
(Statistical analysis)
Line 1 (page 10) has been reviewed in line with the comments of the reviewer.

Results
(FRAP)
Line 1(page 10) mm has replaced µm.
(DPPH)
Lines 5-6 (page 11) have been corrected.
Table
The table has now been split into 2. While table 1 focused on the phenolics, table 2 is based on the results of the FRAP assay and in the process addressed the comments of the reviewer with respect to transferring the data on BHT, catechin and quercetin to the FRAP column.
Figures-The charts for the figures have been moved to the top of the graph as suggested by the reviewer. The font sizes have also been increased.
Reviewer 2: (Cephas Tagumirwa T Musabayane).

Introduction (Background)
Lines 10-13 (page 5) have now indicated the objectives of the study clearly.

It is true that this is the first time in vitro antioxidant study is being carried out on these plants. On the issue of link between the paragraphs on Adenia gummifera and lipid peroxidation, it should be stated that the whole essence of this study is to determine the antioxidant activities of the plants: Acokanthera oppositifolia and Adenia gummifera. After literature search have been made on the 2 plants, it is pertinent that some background information should also be made on lipid peroxidation. This is the link.
KB means kappa B, and it is a nuclear factor. This has been stated in the text (Lines 21-23 of page 4).

Materials and Method
(Plant collection)
Line 1 (page 5) has now stated the time of plant collection i.e. July 2006.
(Extract preparation)
Line 1 (page 6) has also indicated the period of drying the plants i.e. 3 weeks.

Statistical presentation.
SEM has now been used instead of SD (Line 1 page 10).

Results and Discussion.
With due respect to the reviewer, I can state that with or without animal models, the results could still have meaningful significance. As a matter of fact, animal models is a different study hence the present study is complete without it. If there is need for animal study, this could be embarked upon but it will be as further study.

Again on the issue of comparing the ABTS radical scavenging activities of the 2 plants, it needs to be stated that at 0.08mg/ml the percentage inhibition was 99.0, 94.2 and 96.8% for A. oppositifolia, A. gummifera and BHT respectively. On the other hand, at 0.1mg/ml, the percentage inhibition was 90.5, 95.5 and 99.3% for A. oppositifolia, A. gummifera and BHT respectively. It means the activities of these extracts were actually similar though that of Acokanthera is slightly higher. The difference however is not significant as shown from the raw table presented below.

<table>
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<tr>
<th></th>
<th>0</th>
<th>0.02mg/ml</th>
<th>0.04mg/ml</th>
<th>0.06mg/ml</th>
<th>0.08mg/ml</th>
<th>0.1mg/ml</th>
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</thead>
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<tr>
<td>Adenia gummifera</td>
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<td>70.0</td>
<td>85.0</td>
<td>91.1</td>
<td>94.2</td>
<td>95.9</td>
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<tr>
<td>Acokanthera oblongifolia</td>
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<td>77.9</td>
<td>82.2</td>
<td>96.2</td>
<td>99.0</td>
<td>90.5</td>
</tr>
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<td>BHT</td>
<td>0</td>
<td>71.2</td>
<td>87.1</td>
<td>94.1</td>
<td>96.8</td>
<td>99.3</td>
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