Reviewer's report

Title: Improvements of insulin resistance in ovariectomized rats by a novel phytoestrogen from Curcuma comosa Roxb.

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Reviewer: Nattinee Jantaratnotai

Reviewer's report:

The authors Prasannarong et al. provides novel evidence on the beneficial effects on body weight, lipid profile and insulin resistance of extracts from phytoestrogenic plant on ovariectomized rats. This should be of interest to the readers in the field of herbal medicine and in metabolic syndrome. The article is concise and clearly written and should be considered for publication. However, there are some points of concern.

Major points:
1 Since the chemicals used are claimed to have estrogenic properties, there should be experiments comparing the effects with estrogen itself.

2 There should be experiments or at least discussion on the mechanism of action of C. comosa hexane extract and compound 049. Also, what is the reason behind the differences in effects between hexane extract and compound049 in some experiments?

3 Are there any toxic effects of these compounds at higher doses?

Minor points:
1 There should be a brief explanation of G-I index in materials and methods because only OGTT is mentioned.

2 In M&M, should provide full names for BCA protein assay and CIOMS

3 The figure legends should be written in more details, e.g. explaining C-125, etc.

4 The legend for fig 4, the significant sign § is incorrect.

Level of interest: An article of importance in its field

Quality of written English: Acceptable

Statistical review: No, the manuscript does not need to be seen by a statistician.

Declaration of competing interests:
I declare that I have no competing interests but I co-authored one article with one of the authors.