WORLD JOURNAL OF PHARMACEUTICAL RESEARCH
SJIF Impact Factor 8.074
Volume 7, Issue 7, 1280-1284. Research Article ISSN 2277– 7105

ASSESSMENT OF BIOMOLECULES FROM LEAVES EXTRACT OF ETHNIC PLANTS

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Article Received on
12 Feb. 2018,

Revised on 04 Mar. 2018,
Accepted on 25 Mar. 2018,

DOI: 10.20959/wjpr20187-11698

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INTRODUCTION

Plants derived of several kinds substances was given great interest in used as traditional medical practices, modern medicines, nutraceuticals, food supplements, folk medicine, drug intermediates and chemical entities for synthetic drugs and plants have to ethno medicinal valued and in decoration at societies level interaction of peoples given happiness and joy show as like fragrance, natural beauty of aroma, colors and shapes. Elements are the constituents of phytochemical presence in parts of plants such as flowers, seeds, leaves and stems. The products derived from plants are relatively complex mixture of metabolites, in the liquid state, after removing the solvent from extract material in dry to powder form. The most active components extracted in using methanol organic solvent for plants leaves of species such as *C. citratus, T. cordifolia, S. mukorossi, T. grandis, P. emblica, A. concinna, H. rosasinensis, D. metel, R. communis, M. pudica*. The plants phytochemical are extracted by Soxhlet in alcoholic solvent under steam distillation employed. Useful conclusions have been taken with the use of carbohydrate such as sugars, glucose and fructose estimation through used methods of the biochemical estimation applied of Molishch, Benedict, Selvynoff and Fahling Test.

MATERIALS AND METHODS

Plant Materials

The plants materials leaves was collected from plants species such as C. citratus, T. *cordifolia, S. mukorossi, T. grandis, P. emblica, A. concinna, H. rosasinensis, D. metel, R. communis, M. pudica* from local area of Betul district and the plants leaves were wet free

dried in air under room to a constant weight before extraction and dried at moisture free from leaves in the hot air oven at about 60°C for three days.

Choice of solvent

The maintained of biologically active compounds contained in plant material are dependent on the type of solvent such as methanol have low toxicity, ease of evaporation at low heat, promotion of rapid physiologic absorption of the extract used.

Methods of extraction

Plant tissue was homogenizations by grinded in a blender to fine particles, put in a certain quantity of solvent in Soxhlet for desired compound solubility in solvent.

Optimization of phytochemicals

TLC plates were prepared by mixing the adsorbent like silica gel G with distilled water in the ratio 1:2. The resulting slurry was mechanically shaken for 5 min then coated on plates to give fine layer thick, by used an applicator. The plates were first dried in air at room temperature and transfer in hot air oven at 100°C for 60 min. before loading of chromatic samples.

Estimation of carbohydrates

Molisch test: Taken 1 ml of test sample in a test tube and add 2 drops of Molisch reagent (50 gm α- naptithol in 100 ml alcohol) mix well, add 2 ml of H_2SO_4 along the side of tube, form a purple ring appear below in solution.

Benedict test: Taken 0.5 ml of test sample in a test tube and add 2ml of Benedict reagent (17.3gm of sodium citrate and 10 gm Na_2CO_3 in 80 ml H_2O and separate dissolve 1.7 gm $CuSO_4$ in 10 ml H_2O mix both in stirring) mix well and transfer in water bath at 80°C for 5 min. the formation of colors precipitate appeared conformed sugar.

Selwinoff test: Taken 1 ml of test sample in a test tube and add 5 ml of Selwinoff reagent (0.05 gm resorcinol dissolved in 100 ml 1N HCl) mix well and transfer in water bath at 80°C for 30 min. red color appeared to confirm the fructose.

Fehling test: Taken 2 ml of Fehling reagents (7 gm $CuSO_4$ in 100 ml water for solution A, 24 gm KOH and 35 gm sodium potassium tartrate in 100 ml water for solution B) mix both at

well form in a test tube and add few drops of test sample and transfer in water bath at 80°C for 30min. rusty brown/red colour precipitate appeared to confirm glucose.

RESULTS AND DISCUSSIONS

The soxhlet apparatus was used to extraction of phytochemicals from the leaves powder of various plants species in methanol solvent, yielded different results in each of the experiment conducted in this study. Here was obtained yield in the difference percentage of the extract contained various kinds biomolecules included such as carbohydrates.

The experimental results was showed that with molisch test of carbohydrates estimation with leaves of plant species *P. emblica* and *M. pudica* have very less in quantities so this causes here unable to indicated the purple ring in samples with the test of carbohydrates.

With benedict test of sugar estimation presence in less form in leaves of plant species *D. metel* so unable to the formation of colors precipitate. With selwinoff test for fructose estimation was found less amounts with the plants species *P. emblica*, *H. rosasinensis* and *R. communis* so test indication unable to given red color improved presence of fructose in above plants species. With fehling test for glucose estimation found positive response rusty brown and red colour precipitate appeared with plants species as *S. mukorossi* and *A. concinna*. Here obtained results all kinds carbohydrate test success with plants species as *S. mukorossi* and *A. concinna* details showed in table 1 included figures 1 & 2.

Table No 1: Analysis of biomolecules in plants leaves extract.

S. No.	Plants species	Carbohydrate	Sugar	Fructose	Glucose
1	*C. citratus*	+	+	+	-
2	*T. cordifolia*	+	+	+	-
3	*S. mukorossi*	+	+	+	+
4	*T. grandis*	+	+	+	-
5	*P. emblica*	-	+	-	-
6	*A. concinna*	+	+	+	+
7	*H. rosasinensis*	+	+	-	-
8	*D. metel*	+	-	+	-
9	*R. communis*	+	+	-	-
10	*M. pudica*	-	+	+	-

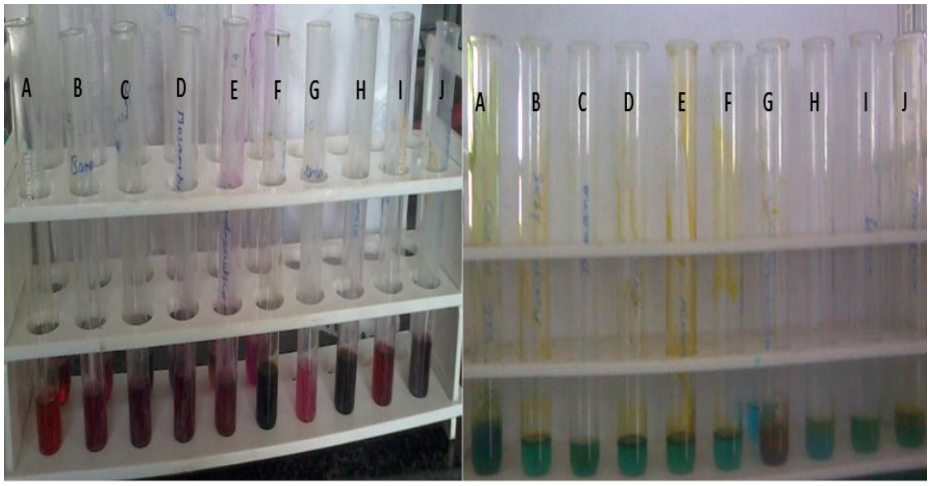

Figure 1: optimization to estimation of carbohydrate by different method such as Molisch test for carbohydrate, Benedict test for sugar, Selwinoff test for fructose and Fehling test for glucose from leaves extracted phytochemical of plants species *C. citratus, T. cordifolia, S. mukorossi, T. grandis, P. emblica, A. concinna, H. rosasinensis, D. metel, R. communis, M. pudica.*

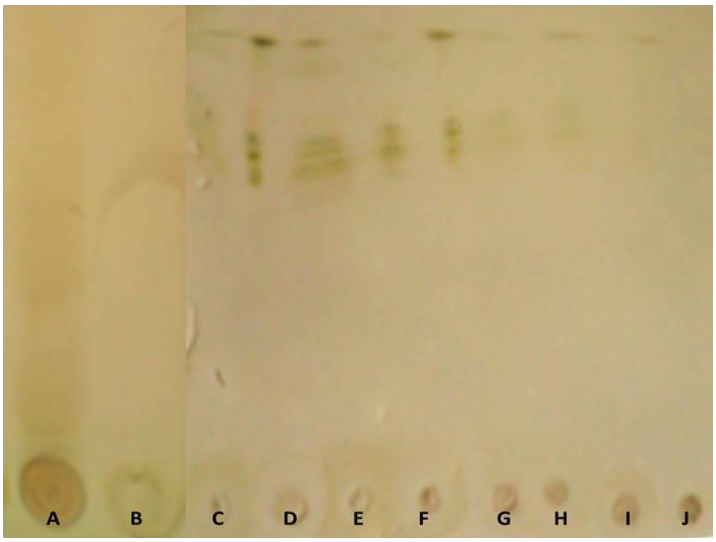

Figure 2: performance to chromatography of various phytochemical on TLC plate by plants species as *C. citratus, T. cordifolia, S. mukorossi, T. grandis, P. emblica, A. concinna, H. rosasinensis, D. metel, R. communis, M. pudica.*

CONCLUSION

All kinds plants species building with biomolecules like as carbohydrate with different in quantities so that ways those plants extracted given negative response with test such have very much less amount of expected molecules presented in samples and also other factor solubility of organic solvents properties of the phytochemicals of the plants.

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