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Estimation and Evaluation of Antibacterial Efficacy of Phenolics Isolated from Iraqi *Myrtus communis* Leaves

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ABSTRACT

Myrtus communis is considered as one of the major medicinal plants Iraqi abundant widely in plant Kingdom. The current study was established to isolate the phenols from the leaves of this plant and extraction percentages were calculated. Qualitative tests were applied for cold aqueous, cold ethanolic and phenolic extracts for *Myrtus communis*. The concentrations of phenols which were represented by 50,100,125 and 150 gm/ml recorded inhibition zone diameters equal to 20,20,21 and 22 mm respectively against growth *Escherichia coli* while the same concentrations values showed inhibition zone diameters were 20,22,23 and 25 mm respectively against *Staphylococcus aureus*. The concentrations prepared from the phenols showed a very good biochemical and medicinal ability to inhibit the biological and chemical system of these pathogenic bacteria, so the phenolic compounds of *Myrtus communis* can be applied for treatment of infections and inflammatory caused by these pathogens instead of the synthetic drugs having multi-side effects.

1. INTRODUCTION

The importance of traditional medicinal plants comes from their various biochemical and clinical functions for treatment of a wide spectrum of diseases causing infections and inflammatory in human being. The increased demand of use of the chemical extracts belonging to different medicinal plants led to treat many pathogenic cases [1], [2]. The metabolitic active chemical compounds are biochemically anabolized in the medicinal plants by secondary metabolism through a lot of metabolic chemical pathways catalized by multi-enzymes. The active compounds present in the various parts of these plants include many chemical families such as phenols, flavonoids, alkaloids, glycosides, tannins, saponins, steroids, essential oils, coumarins and terpenes [3], [4].

Multi-researchers indicated, estimated and proved the biochemical and medicinal potential of the active secondary metabolites against various pathogenic micro-organisms like bacteria, fungi and parasites causing to many diseases infect humans and animals. In addition to presence of active chemical compounds, the medicinal plants have no side effects as in synthetic antibiotics and this feature resulting from synergistic interaction among all active metabolites existing in all parts of these plants [5- 7].