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## Phosphorus, Sulfur, and Silicon and the Related Elements

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### Synthesis and Evaluation of Anti-Proliferative and Anti-Invasive Effects of New Bisphosphonate Partial Esters on Breast Carcinomas and Fibrosarcomas Models

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## **SYNTHESIS AND EVALUATION OF ANTI-PROLIFERATIVE AND ANTI-INVASIVE EFFECTS OF NEW BISPHOSPHONATE PARTIAL ESTERS ON BREAST CARCINOMAS AND FIBROSARCOMAS MODELS**

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Bisphosphonates are becoming an important class of drugs used in the treatment of bone diseases involving excessive bone resorption. Recently, different studies have shown that the use of bisphosphonates might be considered as an important improvement in the treatment of cancer. It has been shown that bisphosphonates inhibit the development of bone metastasis in breast cancer patients.<sup>1</sup> In this study, we report an efficient method to synthesize bisphosphonates partial esters and bisphosphonic acids. We have prepared and studied the biological activity of new bisphosphonates, derivative of sodium phenylacetate, a physiological product of phenylalanine metabolism which inhibit breast carcinomas cell proliferation.

In a first step, the molecules are tested in vitro on breast carcinomas and fibrosarcomas cell lines, which are angiogenic and metastatic in vivo.<sup>2</sup> According to the molecules and concentrations used, the inhibition of cell growth varied from 70% to 100% after 48 h of culture.

In vivo experiments are in progress.

## **REFERENCES**

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