На главной странице в колонтитуле - только название журнала

20 px | Margin 130 px | 11 px . Newton Bolt Italic | 20 px

33 px header | 22 px

Линия колонтитула 0,44, 4F4F4F

Линия 0,87 px, A6A6A6

83.8 px top margin

15 px . Newton Bold

SUPERPARAMAGNETIC RELAXATION IN ENSEMBLES OF ULTRASMALL NANOPARTICLES FERRIHYDRITE

30.4 px | 14 px . Newton Bold

P. C. Agu[1,*], C. A. Afiukwa[2], O. U. Orji[1], E. M. Ezeh[3], I. H. Ofoke[4], C. O. Ogbu[5]

21,5 px | 10 px . Newton Regular

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17.6 px

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16.7 px | 28 px

777 px | Type area | Основная область документа.

11 px . Newton Bolt | Акцентные элементы текста

Abstract. Molecular docking is a computational technique that predicts the binding affinity of ligands to receptor proteins. Although it has potential uses in nutraceutical research, it has developed into a formidable tool for drug development. Bioactive substances called nutraceuticals are present in food sources and can be used in the management of diseases. Finding their molecular targets can help in the creation of disease-specific new therapies. The purpose of this review was to explore molecular docking's application to the study of dietary supplements and disease management. First, an overview of the fundamentals of molecular docking and the various software tools available for docking was presented. We further highlighted biochemistry pathways and models from recent studies that have revealed molecular mechanisms to pinpoint new nutraceuticals' effects on disease pathogenesis. It is convincingly true that molecular docking is a useful tool for identifying the molecular targets of nutraceuticals in the management of diseases. It may offer information about how nutraceuticals work and support the creation of new therapeutics. Therefore, molecular docking has a bright future in nutraceutical research and has a lot of potentials to lead to the creation of brand-new medicines for the treatment of disease.

11 px . Newton Regular | Текст

23.3 px | 11 px . Newton Bolt

Keywords: superparamagnetism, relaxation, ferrihydrite

DOI: 10.31857/S0023476124010101e5

18.5 px

38 px отбивка | 11 px . Newton Bolt, Uppercase | Рубрики

INTRODUCTION

18.5 px

Recently, researchers have been paying increasing attention to the possible practical applications of na-noscale materials. Undoubtedly, the field of biomedical applications is the most relevant among the prac-tical applications of nanomaterials. It is usually assumed that an external magnetic field is used to implement thermal effects on the affected tissues, in which magnetic nanoparticles are pre-localized. This process is called magnetic hyperthermia.

The heating of magnetic nanoparticles in an external alter-nating magnetic field is mainly due to hysteresis losses associated with the relaxation processes of the magnetic moments of the particles. Here, the term "relaxation processes" refers to the characteristic re-versal time of the magnetic moment of the particle. The parameter that determines the effectiveness of magnetic heating in hyperthermia is the amount of effective energy absorption (SAR) for heating by a magnetic field.

165 px

Newton regular 9 px | Newton regular 9 px | Newton Bolt 9 px

 https://doi.org/10.31857/S0023476124010101e5

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Дату берем из мета данных статьи и журнала

DOI в нижнем колонтитуле только на главной страницы

Всегда в нижнем колонтитуле

нумерация с 1

Margin 130 px

Это вертикальный пробел до изображения 112 px

16.6 px | расстояние от края текстовой полосы до начала иллюстрации

Начиная со 2 странице в верхнем колонтитуле прописываем doi

730 px | Type area

The initial sample (FH-0h) is a set of nanoparticles obtained biogenically by culturing the bacterium Klebsiel-la oxytoca. For the samples obtained by this method, the presence of an organic shell on the surface of the particles was established [34], which causes weakened magnetic interparticle interactions. The sec-ond sample (FH-24h) was obtained by annealing the initial sample at a temperature of 150 ° C in an air atmosphere for 24 hours. In this process, the organic shell "burns out", which leads to partial agglomera-tion of particles and their enlargement [35, 36]. Thus, the studied samples are ensembles of ferrihydrite nanoparticles with strong (FH-24h) and weak (FH-0h) magnetic interparticle interactions.

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30 px

EXPERIMENT

Recently, researchers have been paying increasing attention to the possible practical applications of na-noscale materials. Undoubtedly, the field of biomedical applications is the most relevant among the prac-tical applications of nanomaterials. It is usually assumed that an external magnetic field is used to implement thermal effects on the affected tissues, in which magnetic nanoparticles are pre-localized. This process is called magnetic hyperthermia.

The heating of magnetic nanoparticles in an external alter-nating magnetic field is mainly due to hysteresis losses associated with the relaxation processes of the magnetic moments of the particles. Here, the term "relaxation processes" refers to the characteristic re-versal time of the magnetic moment of the particle. The parameter that determines the effectiveness of magnetic heating in hyperthermia is the amount of effective energy absorption (SAR) for heating by a magnetic field.

The heating of magnetic nanoparticles in an external alter-nating magnetic field is mainly due to hysteresis losses associated with the relaxation processes of the magnetic moments of the particles. Here, the term "relaxation processes" refers to the characteristic re-versal time of the magnetic moment of the particle. The parameter that determines the effectiveness of magnetic heating in hyperthermia is the amount of effective energy absorption (SAR) for heating by a magnetic field. The heating of magnetic nanoparticles in an external alter-nating magnetic field is mainly due to hysteresis losses associated with the relaxation processes of the magnetic moments of the particles.

112 px

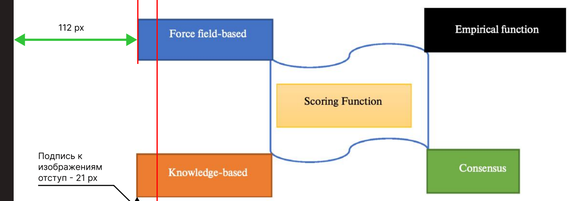

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Figure 1. Classes of search algorithm mechanisms.

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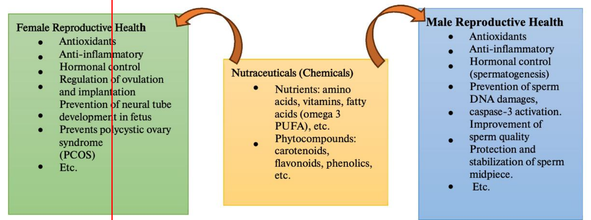

Figure 3. Actions of the Nutraceuticals on reproductive health.

CONCLUSION

Molecular docking is a useful approach for identifying the molecular targets of nutraceuticals in the treatment of illness. To identify possible treatment targets, it enables the prediction of the binding affinity and conforma-tion of nutraceuticals with target proteins. The availability of databases and the improvement of computational tools have made molecular docking a crucial tool in the drug discovery process. The usage of this technology has improved drug discovery's efficiency and efficacy by cutting the time and expense needed for conventional experimental procedures. Therefore, the use of molecular docking in research on dietary supplements has consid-erable potential for the identification of novel therapeutic targets and the creation of secure and efficient dietary supplements for the treatment of disease.

11 px

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