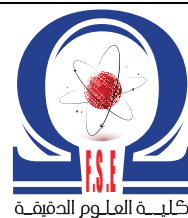




الجمهورية الجزائرية الديمقراطية الشعبية  
وزارة التعليم العالي والبحث العلمي  
جامعة قسنطينة 1 – الإخوة منتوري  
كلية العلوم الدقيقة

PEOPLE'S DEMOCRATIC REPUBLIC OF ALGERIA  
MINISTRY OF HIGHER EDUCATION AND SCIENTIFIC RESEARCH  
Constantine 1 University – Frères Mentouri  
Faculty of Exact Sciences



## ANNONCE DE SOUTENANCE



Conformément à la décision n° **95/D3C/2026** du **06 Juillet 2026** autorisant la soutenance d'une thèse de doctorat, le Vice-doyennat chargé de la post-graduation, de la recherche scientifique et des relations extérieures, a n n o n c e la soutenance publique d'une thèse de doctorat le :

**Mercredi 08 Juillet 2026 à 16 H00**

Lieu : Salle de conférences sise au Campus Chaab Erssas.

**Filière** : CHIMIE

**Spécialité** : Chimie Organique

**Doctorante** : **BADAoui Kawther**

Sur le thème : « Green synthesis, structural characterization and molecular modeling of new- $\alpha$ -aminophosphonate and 1-amidoalkyl-2 naphthol derivatives with potential biological applications ».

Devant le jury d'examen :

	Nom et prénoms	Grade	Etablissement d'appartenance
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	MECHEHOUD Youcef	Professeur	Université Constantine1, Frères Mentouri

# A b s t r a c t

This thesis comprises the synthesis, structural elucidation, biological evaluation, and molecular docking of  $\alpha$ -aminophosphonates and 1-amidoalkyl-2-naphthol derivatives.

The first chapter focuses on the synthesis of  $\alpha$ -aminophosphonates by employing the Kabachnik-Fields reaction. Thirty-four compounds were prepared using acetylsalicylic acid (ASA) as a catalyst under ultrasound irradiation at 80°C in solvent-free conditions. Eleven selected  $\alpha$ -aminophosphonate derivatives exhibited acceptable results against three cancer cell lines (A2780, Caco-2, and MCF-7) using the MTT assay. The  $\alpha$ -aminophosphonates series demonstrated high antioxidant potency according to DPPH, ABTS, FRAP, and phenanthroline assays. Their antifungal activity also was achieved against FOL. Molecular docking study confirmed the anticancer activity results.

The second chapter describes the preparation of 1-amidoalkyl-2-naphthols by Betti reaction. Fifteen compounds were obtained under solvent-free conditions at 80°C using (4-methylthiophen-3-yl)boronic acid (4-Me-3-TBA) as a catalyst. The 1-amidoalkyl-2-naphthol series presented strong AChE and BChE inhibitors. Molecular docking investigation was achieved to corroborate the biological experimentations.

The synthesized molecules were characterized using  $^1\text{H}$  NMR,  $^{13}\text{C}$  NMR,  $^{31}\text{P}$  NMR, and IR. New molecules were also identified by elemental analysis or mass spectrometry methods. Compounds **B1**, **4b** and **4h** were analysed by X-ray diffraction.