





FICHE PROJET EUROPEEN			
ACRONYME : RADFLUROX			
NOM COMPLET DU PROJET	COMPLET DU PROJET Radical Fluorination Reactions of Oxalates (RADFLUROX)		
NUMERO DE CONVENTION	20 ^E 04384		
DATE DE DEBUT	31/10/2020		
DATE DE FIN	30/10/2022		
COORDINATEURS			
Etablissement(s)	• Laboratoire(s)	 Responsable(s) 	 Partenaire(s)
URN	COBRA		
CONTACT			<u> </u>
SITE INTERNET DU			
LABORATOIRE			
ET PROJET			
DESCRIPTION DU PROJET			
RESUME	DESCRIPTION DU PROJET The unique properties that fluorine substitution confers to organic molecules have been exploited in the design of numerous organofluorine compounds which have found applications in industry such as agrochemical, pharmaceutical or material science. In medicinal chemistry, fluorine plays a prominent role because the incorporation of C—F bonds into a drug candidate can considerably affect its biological properties compared to its non-fluorinated analogue.1 Accordingly, fluorine chemistry has become a field of great interest in organic chemistry and, for decades, synthetic tools have been developed to introduce fluorine into organic molecules.2 Numerous fluorination methods have thus been reported, especially for the preparation of aromatic fluorides2a,b and, to a lesser extent, of alkyl fluorine, mostly in aromatic regions.3 If the therapeutic potential of drug containing alkyl fluoride motifs have been demonstrated over the past decades with the discovery of drugs possessing antiinflammatory, anti-viral and anti-cancer activities (Figure 1), this class of molecules is less commonly met in the pharmaceutical drug development landscape. The main reason for this observation is probably due to the difficulties in the preparation of such fluorinated molecules.		







OBJECTITS	Objective n°1: - Explore the synthetic potential of the silver-catalyzed direct radical deoxyfluorination of oxalates Apply the method to the preparation of relevant fluorinated-targets. Objective n°2: - Explore the synthetic potential of oxalates in new radical fluorination reactions by modulating the nature the substituents Apply the new synthetic methodologies to the preparation of relevant fluorinated-targets.	
IMPACTS ATTENDUS ET FINALITE	From a scientific point of view, this RIN-émergence program would allow the investigation of new radical fluorination processes towards alkyl fluorinated molecules. The synthetic methodologies developed thank to the project are expected to have an impact in the field of fluorine chemistry with useful application in both academia and industry. The results of this RIN-émergence project will be disclosed in peer reviewed journals with high impact factor. All the articles published from the project will then be uploaded on the open access HAL platform after the legal embargo period. Oral and poster communication during conferences will also be considered. All fluorinated molecules synthesized during this project will be included in the chemical library of IRCOF in order to evaluate their therapeutic potential. To maximize the identification of potential biological activity of alkyl fluorinated molecules resulting from the project, future collaborations with relevant biologists partners from academia or industry will be considered. Furthermore, the results of this research program could be further valued in the context of industrial collaborations thank to the I2C Carnot project supported by our laboratory. Finally, this RINémergenceprogram will not only assist JB in establishing his independent research program but it will expend the expertise in fluorine chemistry of Synthesis of Fluorinated Biomolecules (SFB) team. In the future, it is expected that this project will validate several proof of concepts regarding the development of new radical fluorination transformations enabling the SFB team to answer research calls at National (e.g. ANR-PRC) and international (e.g. H2021-2027, EUR-XLChem) level.	
RESULTATS		
MODALITES DE FINANCEMENT	BUDGET TOTAL : 105000€	
Niveau de soutien FEDER / FSE / FAEDER	105000€	
Niveau de soutien réaion		
Nombre de personnes travaillant sur le projet	1 postdoctorant	
L'Europe s'engage en Normandie avec le Fonds Européen de Développement Régional		