



Additional Insights into *Hypericum perforatum* Content: Isolation, Total Synthesis, and Absolute Configuration of Hyperbiphenyls A and B from Immunomodulatory Root Extracts

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Titre	Additional Insights into <i>Hypericum perforatum</i> Content: Isolation, Total Synthesis, and Absolute Configuration of Hyperbiphenyls A and B from Immunomodulatory Root Extracts
Type de publication	Article de revue
Auteur	Bréard, Dimitri [1], Viault, Guillaume [2], Mézier, Marie-Charlotte [3], Pagie, Sylvain [4], Bruguière, Antoine [5], Richomme, Pascal [6], Charreau, Béatrice [7], Derbré, Séverine [8]
Pays	Etats-Unis
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Résumé en anglais	<p>Phytochemical investigation of the root extracts of <i>Hypericum perforatum</i> led to the isolation of two biphenyl derivatives named hyperbiphenyls A and B (1 and 2) and four known xanthenes (3–6). These structures were elucidated by spectroscopic and spectrometric methods including UV, NMR, and HRMS. The absolute configuration of the biphenyl derivatives was defined by two different approaches: biomimetic total synthesis of racemic hyperbiphenyl A followed by ¹H and ¹⁹F NMR Mosher's esters analysis and stereoselective total synthesis of hyperbiphenyl B, permitting assignment of the S absolute configuration for both compounds. The bioactivity of compounds 1–6 toward a set of biomolecules, including major histocompatibility complex (MHC) molecules expressed on vascular endothelial cells, was measured. The results showed that the major xanthone, i.e., 5-O-methyl-2-deprenylrheediaxanthone B (3), is a potent inhibitor of MHC that efficiently reduces HLA-E, MHC-II, and MICA biomolecules on cell surfaces.</p>
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Liens

- [1] <http://okina.univ-angers.fr/dimitri.breard/publications>
- [2] <http://okina.univ-angers.fr/user/4157/publications>
- [3] <http://okina.univ-angers.fr/publications?f%5Bauthor%5D=24499>
- [4] <http://okina.univ-angers.fr/publications?f%5Bauthor%5D=24500>
- [5] <http://okina.univ-angers.fr/publications?f%5Bauthor%5D=28921>
- [6] <http://okina.univ-angers.fr/p.richomme/publications>
- [7] <http://okina.univ-angers.fr/publications?f%5Bauthor%5D=17375>
- [8] <http://okina.univ-angers.fr/severine.derbre/publications>
- [9] <http://okina.univ-angers.fr/publications/ua17372>
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