

Abstract Title: Purification of Flexirubin Pigments from *Chryseobacterium*

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Purification of Flexirubin Pigments from *Chryseobacterium*

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Abstract

Many species within the *Flavobacteriaceae*, *Cytophagaceae*, and *Chitinophagaceae* families of the *Bacteroidetes* contain flexirubins, a modestly studied class of pigments. The purification and structural determination of flexirubins has already been completed for 5 species: *Chitinophaga filiformis* Fx e1, *Flavobacterium sp.* strain C ½, *Flavobacterium sp.* strain Samoa, *Flavobacterium johnsoniae* Cy j1, and an unrelated sulfur-reducing bacterium, *Sulfurospirillum delayianium* 5175. As shown by 42 elucidated structures, these pigments have 5 possible structural variations.

In this study, the purification of flexirubins from *Chryseobacterium oranimense* has been optimized. Initial acetone extraction of pigments from *Chryseobacterium oranimense* DSM 24030 was prepared in methanol for preparative separation of related flexirubin pigments by silica gel column chromatography. Preparative fractions have been purified utilizing reversed phase high performance liquid chromatography (HPLC) for subsequent structural determination using spectroscopic methods. Obtaining the chemical structures of flexirubins of *Chryseobacteria* may better demonstrate the ability of such a study to differentiate closely related bacteria past traditional phenotypic, genetic, and biochemical approaches. Additional flexirubin structures from more diverse bacterial species may aid in determining the function and biosynthesis of these pigments.