

Synthesis of imidazolium hydrogen sulphate and morpholinium tetrafluoroborate ionic liquids: Its antimicrobial activity

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ABSTRACT

Recent years have seen renewed interest in the application of ionic liquids (ILs) on extraction. Along with this grow of ionic liquids, there are significant concern over the effect of ILs on the biomass extraction. Therefore the aim of this present work was to study the inhibitory effect of synthesized ILs particularly imidazolium hydrogen sulphate [IM][HSO₄] and morpholinium tetrafluoroborate [MOR][BF₄]. Antibacterial and antifungal activities were carried out against *Bacillus cereus*, *Bacillus thuringiensis* and *Pseudallescheria boydii* which are the main producer of ferulic acid (FA). Results showed that the inhibitory effects of [IM][HSO₄] against bacteria (*Bacillus cereus* and *Bacillus thuringiensis*) and fungus (*Pseudallescheria boydii*) were more extensive with inhibition zone of 20.3 and 52.3 mm respectively compared to [MOR][BF₄] with 8.3 and 34.0 mm. This result represented the inhibitory effect of ILs especially on fungus as compared to bacteria tested in this present study.

KEYWORDS

Ionic liquid; Antibacterial activity; Antifungal activity; Ferulic acid extraction

ACKNOWLEDGEMENTS

The author would like to gratefully acknowledge the financial aid from Minister of Higher Education with research grant RDU190171 and RDU200733. Nurul Aliaa Rahman is the recipient of PGRS RDU210324. The authors would like to acknowledge the Centre of Research in Ionic Liquid (CORIL) Universiti Teknologi Petronas for providing facilities to synthesis the ILs and the University Malaysia Pahang for their support.