

PEMANFAATAN BAKTERI HASIL ISOLASI DARI TPA (TEMPAT PEMBUANGAN AKHIR) GUNUNG TUGEL KABUPATEN BANYUMAS SEBAGAI AGEN BIODEGRADASI POLIMER POLIEUGENOL

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Abstract	A number of microbes are known to have ability to degrade synthetic polymers such as polyeugenol. This research was attempted to know the genus of bacterium that isolated from Gunung Tugel garbage dumping land which is able to degrade polyeugenol and to characterize polyeugenol before and after biodegradation process using this bacterium. Pure eugenol was polymerized into polyeugenol by adding concentrated sulphate acid, and then formed become a thin film. Bacterium which is isolated from Gunung Tugel garbage dumping land was suggested as <i>Acinetobacter</i> sp. Polyeugenol thin film was incubated with this bacterium with various incubation times 5, 10, 15, 20, 25, 30 and 60 days. Thin film then was characterized including melting point value, percentage of weight loss, molecular weight, and the function groups by FTIR. Melting point of initial polyeugenol was 135-137°C and after biodegradation was 98-100°C. Percentage average of loss weight was 0.5637% (b/v). Molecular weight of polyeugenol before degradation was 61.472.882,91 g/mole and after biodegradation was 5,542,915.464 g/mole. FTIR spectrum percentage of transmittance of polyeugenol after biodegradation was decreased.
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Author	ZUSFAHAIR, S.Si, M.Si