



INTISARI

Penelitian ini dilakukan dengan tujuan untuk : (1) mengetahui cara sintesis HPMP dari pektin pod husk kakao (2) mengetahui pengaruh metilasi dan propilasi terhadap sifat-sifat fisik dan sifat fungsional dari HPMP dibandingkan dengan pektin pod husk kakao alami dan pektin komersial. Penelitian ini dilakukan dalam 2 tahap. Tahap pertama adalah ekstraksi pektin dari pod husk kakao dengan HCl 0,1 N , suhu 95^oC, pH 2,8 dan waktu 90 menit yang menghasilkan pektin dengan karakteristik rendemen (5,25%) , kadar air (10,01%) , kadar abu (9,69%), kadar metoksil (5,06%) , kadar poligalakturonat (46,64%), derajat esterifikasi (61,59) dan berat ekivalen (2161 mg). Tahap yang kedua adalah sintesis HPMP dari pektin pod husk kakao dengan penambahan propilen oksida (3 ,5 dan 7 gram) dan Dimetis sulfat (4,5697 gram). Hasil penelitian menunjukkan bahwa kadar metoksil (7,58%) , kadar poligalakturat (62,43%) derajat esterifikasi (66,28) , viskositas (16,91cP) tertinggi diperoleh dengan penambahan propilen oksida sebanyak 7 gram. Sedangkan kekuatan gel dan nilai sineresis menunjukkan perlakuan terbaik ditunjukkan pada penambahan 5 gram propilen oksida. Hasil identifikasi gugus fungsi menunjukkan gugus fungsi yang menunjukkan keberadaan pektin yaitu : -OH, C-H (CH dan CH₂) , O-CH₃ , C N, C-N , -COOH dan -CO.

Kata kunci : ekstraksi ; hidrosipropil metil pektin ; pektin ; sintesis



SYNTHESIS AND CHARACTERIZATION OF HYDROXY PROPYL METHYL PECTIN (HPMP) FROM COCOA POD HUSK

ABSTRACT

Present research objectives were (1) to study HPMP synthesis method from cocoa pod husk pectin; (2) to measure the effect of methylation and propylation on physical and functional properties of HPMP, compared to natural cocoa pod husk pectin and commercial pectin. It was carried out in two stages. First, pectin was extracted from cocoa pod husk using 0.1 N HCl at 95⁰C, pH 2.8 for 90 minutes, resulted pectin with 5.25% yield, 10.01% moisture content, 9.69% ash content, 5.06% methoxyl content, 46.64% polygalacturonate content, esterification degree of 61.59 and equivalent weight of 2161 mg. Second stage was HPMP synthesis from previously obtained pectin using propylene oxide (3, 5, and 7 gram) and 4.5697 gram of Dymethylsulfit. Results showed that the highest methoxyl content (7.58%), polygalacturonate (62.43%), esterification degree (66.28), and viscosity (16.91 cP) was obtained using 7 gram of propylene oxide. However, gel strength and syneresis value indicated that the best treatment was A2 (5 gram of propylene oxide). Functional groups identification revealed the groups which indicated pectin presence were: -OH, C-H (CH and CH₂), O-CH₃, C N, C-N, -COOOH and -CO.

Keywords: cocoa pod husk, extraction, hydroxypropyl methyl pectin, synthesis