

## **BAB V**

### **KESIMPULAN DAN SARAN**

#### **V.1. Kesimpulan**

Dari penelitian mengenai absorben hidrofobik dari spons loofah termodifikasi FAT/ZIF-8 serta desilamin dan VTMS, dapat disimpulkan bahwa:

1. Sintesis spons loofah termodifikasi FAT dan ZIF-8 berhasil dilakukan, ditandai dengan hasil karakterisasi EDX yang menunjukkan adanya unsur Zn dan Fe pada sampel LZF.
2. Modifikasi FAT/ZIF-8 serta desilamin dan VTMS mampu meningkatkan hidrofobitas absorben, ditandai dengan nilai sudut kontak variasi LZFV, LZFD, dan LZFVD sebesar  $131,9^\circ$ ,  $129,2^\circ$ , dan  $153,5^\circ$ .
3. Total kapasitas absorpsi untuk minyak cenderung lebih baik menggunakan absorben LZF dengan urutan kapasitas absorpsi bensin < minyak goreng < oli dengan kapasitas absorpsi (gr absorbat/gr absorben) sebesar  $8,93 < 12,90 < 13,90$ .
4. Total kapasitas absorpsi untuk senyawa organik cenderung lebih baik menggunakan absorben LZFVD dengan urutan nilai kapasitas absorpsi (gr absorbat/gr absorben) n-heksana < toluena < kloroform dengan kapasitas absorpsi sebesar  $15,54 < 23,10 < 24,12$ .

#### **V.2. Saran**

Pada penelitian ini, spons loofah langsung dimodifikasi sehingga ukuran rongga akan berbeda-beda antarabsorben. Hal ini dapat mempengaruhi kapasitas absorpsi dimana semakin rapat rongga

maka kemampuan menahan absorbatnya akan semakin baik. Kami menyarankan peneliti yang tertarik untuk memodifikasi spons loofah ke dalam bentuk lain seperti hidrogel. Pada proses pembuatan absorben, diperlukan optimasi yang bertujuan untuk menentukan komposisi komponen dari absorben yang dihasilkan. Selain itu, metode desorpsi senyawa hidrofobik juga dapat dipelajari sehingga hasil yang diperoleh dapat akurat.

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