V. SIMPULAN DAN SARAN

A. Simpulan

Berdasarkan hasil penelitian maka dapat disimpulkan sebagai berikut :

1. Sabun A dan sabun B tidak menunjukkan penghambatan pertumbuhan terhadap keseluruhan sampel isolat *Staphylococcus aureus* yang diisolasi dari daerah Babarsari, Sleman, DIY dibandingkan dengan kontrol *S. aureus* ATCC 6538.
2. Faktor etnis berpengaruh terhadap daya penghambatan Sabun A dan B terhadap *Staphylococcus aureus* sampel Babarsari, Sleman, Yogyakarta.
3. Jangka waktu penggunaan sabun dan aktifitas hobi seperti berenang dan olah raga tidak memperlihatkan pengaruh terhadap penghambatan *Staphylococcus aureus* di Babarsari.

B. Saran

1. Perlu dilakukan penentuan standar kadar triclosan murni dan pengukuran kadar triclosan yang terkandung dalam sabun A dan sabun B terhadap
2. Perlu adanya penelitian lanjutan tentang pengukuran Konsentrasi Hambat Minimum untuk mengetahui penghambatan sabun mandi cair berbahan aktif triclosan terhadap *Staphylococcus aureus* dari daerah Babarsari, Yogyakarta.
3. Perlu dilakukan penelitian yang berkesinambungan tentang penetapan batas bawah (*base-line*) dan batas atas (*top line*) untuk melihat perkembangan

penghambatan triclosan terhadap pertumbuhan *S. aureus* untuk melihat tingkat resistensi S. aureus dari daerah Babarsari, Yogyakarta.

4. Perlu dilakukan penggolongan isolat berdasarkan morfologi dan pengujian sifat biokimia.
5. Perlu penentuan jumlah probandus untuk untuk menentukan jumlah kelompok sampel *S. aureus* berdasarkan sifat penghambatannya.

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Lampiran 1. Kuisioner

A. Form Kuisioner

LEMBAR KUISIONER
POLA PENGHAMBATAN SABUN MANDI CAIR BERBAHAN AKTIF TRICLOSAN TERHADAP PERTUMBUHAN Staphylococcus aureus DI DAERAH BABARSARI, SLEMAN, YOGYAKARTA

(Kenny Simon / Fak. Teknobiologi UAJY / 060801005 / HP : 081904240690)

A. Data Pribadi

1. Umur : …….
2. Jenis Kelamin : …….
3. Pekerjaan : …….
4. Asal Daerah : …….
5. No. HP : …….
6. Daerah Aktivitas : …….

B. Informasi Penggunaan Sabun

1. Sabun mandi yang digunakan : ……..
2. Jenis sabun (*) : (Cair / Batang)
3. Alasan pemilihan sabun : …….
4. Lama pemakaian sabun : ……..
5. Sabun mandi lain yang digunakan : ……...
6. Intensitas mandi (*) : - 2 kali sehari
   - 3 kali sehari
   - Lainnya (…… kali sehari)
7. Konsentrasi sabun : air (*) : - 75% : 25%
   - 50% : 50%
   - 25% : 75%
   - Lainnya (……. : ……..)

C. Keterangan Pelengkap

1. Waktu penggunaan antibiotika terakhir : ……
2. Sedang menggunakan produk antibakteri lain : (ya / tidak) (*)
3. Sedang dalam terapi pengobatan kulit : (ya / tidak) (*)
4. Sedang menggunakan produk perawatan kulit : (ya / tidak) (*)
5. Intensitas melakukan renang : ……
6. Intensitas mandi dengan air panas : ……
7. Intensitas melakukan kontak dengan pelarut : ……

Lampiran 2. Tabel Analisis Statistik

Tabel 8. Hasil ANAVA Sabun A Berbahan Aktif Triclosan Terhadap Pembentukan Zona Hambat Isolat *Staphylococcus aureus* Daerah Babarsari.

Sumber	Jumlah Kuadran	Derajat Bebas (df)	Rata-Rata Tengah	F	Sig.
Diantara Kelompok	330.557	18	18.364	9.904	.000
Di dalam Kelompok	70.458	38	1.854		
Total	401.015	56			

Tabel 9. Hasil Analisis DMRT Sabun A Berbahan Aktif Triclosan Terhadap Pembentukan Zona Hambat Isolat *Staphylococcus aureus* Daerah Babarsari.

Perlakuan	N	Subset for alpha = 0.05					
		1	2	3	4	5	6
Sampel 3	3	3.00000					
Sampel 9	3	3.00000					
Sampel 18	3	3.00000					
Sampel 8	3	3.25000	3.25000				
Sampel 1	3	3.66667	3.66667				
Sampel 2	3	3.75000	3.75000				
Sampel 4	3	5.00000	5.00000	5.00000			
Sampel 14	3	5.33333	5.33333	5.33333	5.33333		
Sampel 10	3		5.75000	5.75000	5.75000	5.75000	
Sampel 11	3			6.25000	6.25000	6.25000	
Sampel 12	3			6.33333	6.33333	6.33333	
Sampel 5	3			6.58333	6.58333	6.58333	
Sampel 6	3			6.58333	6.58333	6.58333	
Sampel 7	3			6.83333	6.83333	6.83333	
Sampel 15	3			6.91667	6.91667	6.91667	
Sampel 16	3			7.25000	7.25000	7.25000	
Sampel 17	3				7.75000	7.75000	
Sampel 13	3					8.08333	
Kontrol	3						13.25000
Sig.		.078	.053	.094	.072	.083	1.000

Keterangan :
a. Rata-rata kelompok pada himpunan bagian yang sama telah ditunjukkan
b. Menggunakan rata-rata ukuran sampel yang sesuai = 3,000

Tabel 10. Hasil ANAVA Sabun B Berbahan Aktif Triclosan Terhadap Pembentukan Zona Hambat Isolat *Staphylococcus aureus* Daerah Babarsari.

Sumber	Jumlah Kuadran	Derajat Bebas (df)	Rata-Rata Tengah	F	Sig.
Diantara Kelompok	267.035	18	14.835	16.126	.000
Di dalam Kelompok	34.958	38	.920		
Total	301.993	56			

Tabel 11. Hasil Analisis DMRT Sabun B Berbahan Aktif Triclosan Terhadap Pembentukan Zona Hambat Isolat *Staphylococcus aureus* Daerah Babarsari.

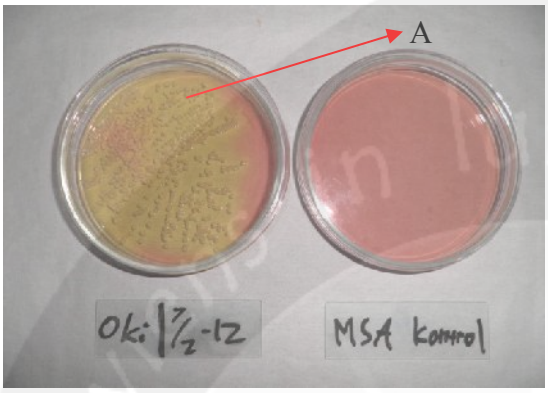
Perlakuan	N	Subset for alpha = 0.05								
		1	2	3	4	5	6	7	8	9
Sampel 6	3	.00000								
Sampel 5	3	1.33333	1.33333							
Sampel 8	3	1.58333	1.58333	1.58333						
Sampel 7	3		2.25000	2.25000	2.25000					
Sampel 4	3		2.66667	2.66667	2.66667					
Sampel 3	3			3.33333	3.33333	3.33333				
Sampel 9	3			3.33333	3.33333	3.33333				
Sampel 13	3				3.91667	3.91667	3.91667			
Sampel 1	3					4.75000	4.75000	4.75000		
Sampel 2	3					4.83333	4.83333	4.83333		
Sampel 11	3						5.25000	5.25000	5.25000	
Sampel 10	3						5.33333	5.33333	5.33333	
Sampel 12	3						5.33333	5.33333	5.33333	
Sampel 14	3						5.58333	5.58333	5.58333	
Sampel 17	3							5.83333	5.83333	
Sampel 16	3							5.91667	5.91667	
Sampel 18	3							6.00000	6.00000	
Sampel 15	3								6.83333	
Kontrol	3									9.41667
Sig.		.062	.128	.051	.063	.094	.071	.183	.090	1.000

Keterangan :

a. Rata-rata kelompok pada himpunan bagian yang sama telah ditunjukkan

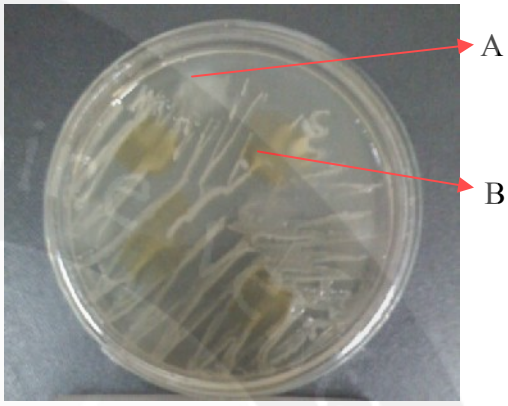
b. Menggunakan rata-rata ukuran sampel yang sesuai = 3,000

Lampiran 3. Hasil Uji Kemurnian



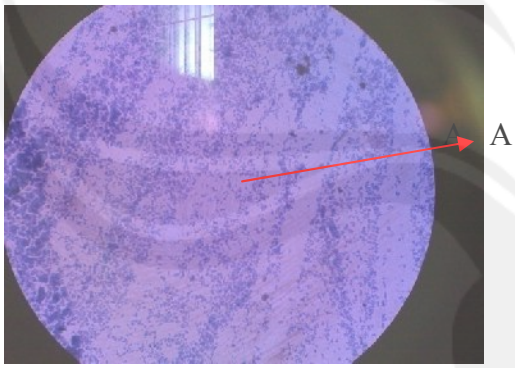
Gambar 12. Hasil Seleksi Pada Mannitol Salt Agar

Keterangan: A : Koloni kuning, perubahan warna disekitar koloni.



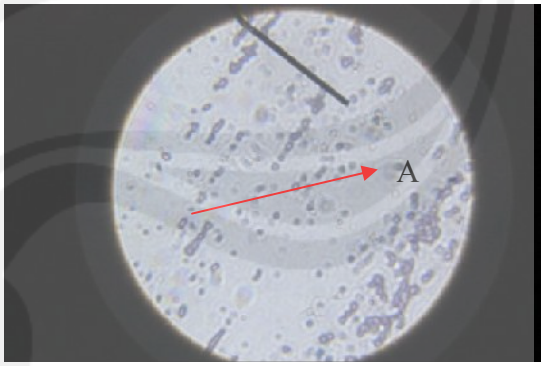
Gambar 13. Uji Gelatinase

Keterangan : A: Hidrolisa gelatin positif (warna putih pada medium).
B: Produksi Asam.



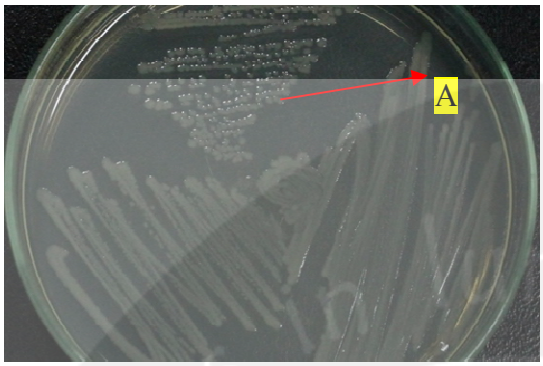
Gambar 14. Hasil Pengecatan Gram (Perbesaran 10x100)

Keterangan : A: Warna ungu (Gram Positif).

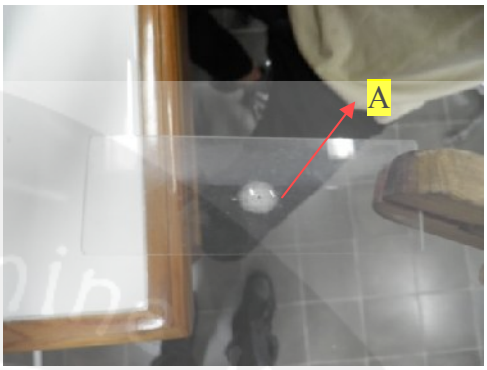


Gambar 15. Hasil Pengecatan Negatif (Perbesaran 10x100)

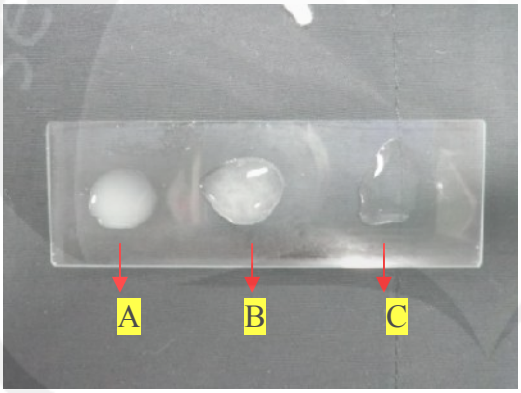
Keterangan : A : Sel berbentuk bulat (*coccus*).



Gambar 16. Penampakan Morfologi
Keterangan : A : Koloni kekuningan,
Bentuk bulat halus

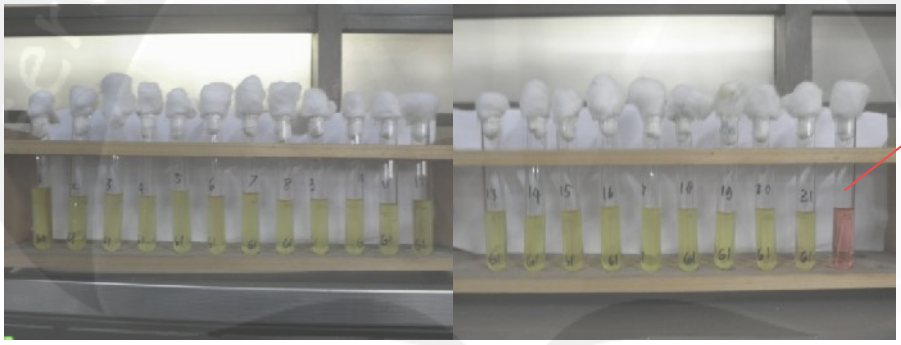


Gambar 17. Hasil Uji Katalase
Keterangan : A : Gelembung gas

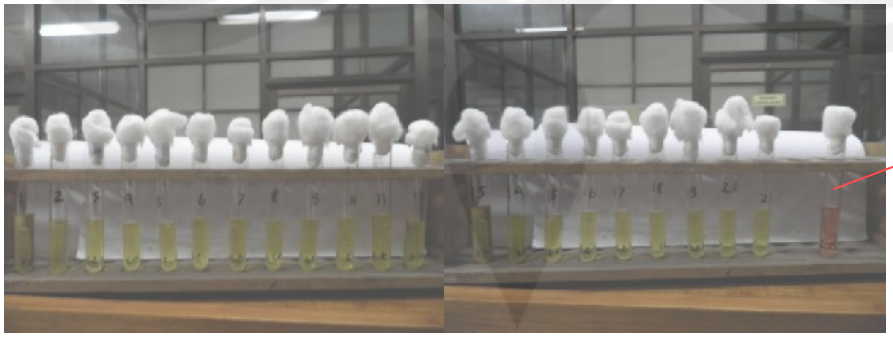


Gambar 18. Hasil Uji Koagulase
Keterangan : A : Isolat + akuades (negatif).
B : Isolat + Akuades + plasma (gumpalan).
C : plasma (negatif).

Gambar 19. Hasil Uji Motilitas
Keterangan : 1-20 : isolat uji (non-motil), 21 : isolat kontrol *Staphylococcus aureus* ATCC 6538 (amotil), K : Medium tanpa inokulum.

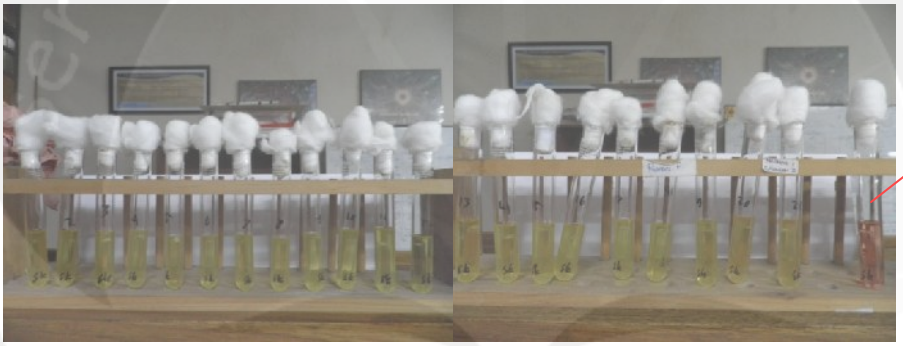


Gambar 20. Hasil Uji Fermentasi Glukosa
Keterangan : **1-20** : Isolat uji (perubahan warna medium, gelembung gas), **21** : isolat kontrol *Staphylococcus aureus* ATCC 6538 (perubahan warna medium, gelembung gas), **K** : medium tanpa inokulum.



Gambar 21. Hasil Uji Fermentasi Laktosa
Keterangan : 1-20 : Isolat uji (perubahan warna medium, gelembung gas), 21 : isolat kontrol *Staphylococcus aureus* ATCC 6538 (perubahan warna medium, gelembung gas), K : medium tanpa inokulum.

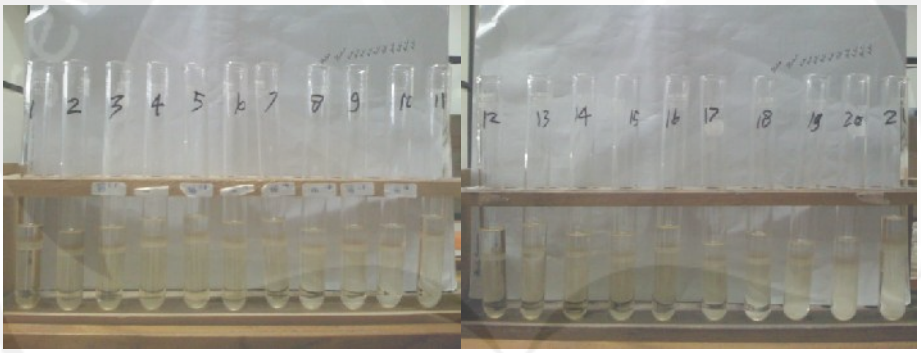
Gambar 22. Hasil Uji Fermentasi Maltosa
Keterangan : 1-20 : Isolat uji (perubahan warna medium, gelembung gas), 21 : isolat kontrol *Staphylococcus aureus* ATCC 6538 (perubahan warna medium, gelembung gas), K : medium tanpa inokulum.



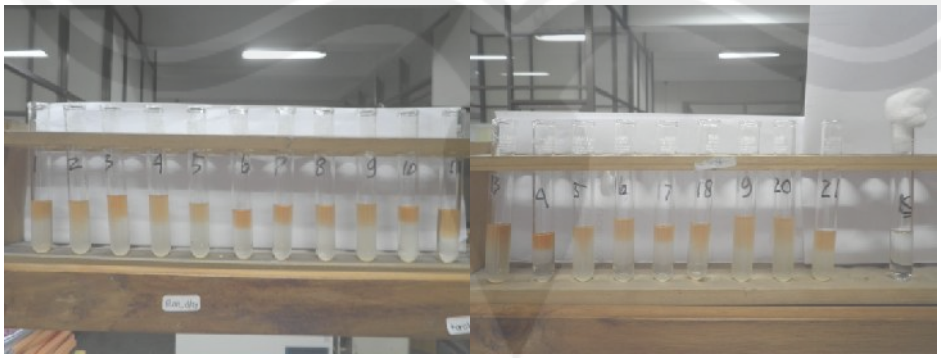
Gambar 23. Hasil Uji Fermentasi Sukrosa
Keterangan : **1-20** : Isolat uji (perubahan warna medium, gelembung gas), **21** : isolat kontrol *Staphylococcus aureus* ATCC 6538 (perubahan warna medium, gelembung gas), **K** : medium tanpa inokulum.

Gambar 24. Hasil Uji Peptonisasi Susu
Keterangan : 1-20 : Isolat uji (perubahan warna medium, terbentuk gumpalan dan endapan), 21 : isolat kontrol *Staphylococcus aureus* ATCC 6538 (perubahan warna medium, terbentuk gumpalan dan endapan), K : medium tanpa inokulum.

Gambar 25. Hasil Uji Reduksi Nitrat
Keterangan : 1-20 : Isolat uji (perubahan warna medium) 21 : isolat kontrol *Staphylococcus aureus* ATCC 6538 (perubahan warna medium), K : medium tanpa inokulum.



Gambar 26. Hasil Uji Pembentukan Indol
Keterangan : 1-20 : Isolat uji (pembentukan cincin violet) 21 : isolat kontrol *Staphylococcus aureus* ATCC 6538 (pembentukan cincin violet)

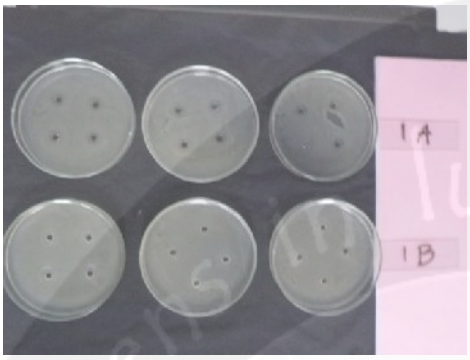


Gambar 27. Hasil Uji Voges-Proskauer
Keterangan : 1-20 : Isolat uji (perubahan warna medium) 21 : isolat kontrol *Staphylococcus aureus* ATCC 6538 (perubahan warna medium), K : medium tanpa inokulum.

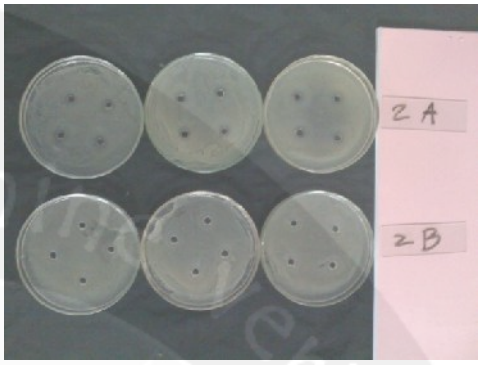
Gambar 28. Hasil Uji Hidrolisa Pati

Keterangan : 1-20 : Isolat uji (warna gelap di sekitar inokulum) 21 : isolat kontrol *Staphylococcus aureus* ATCC 6538 (warna gelap di sekitar inokulum), K : medium tanpa inokulum.

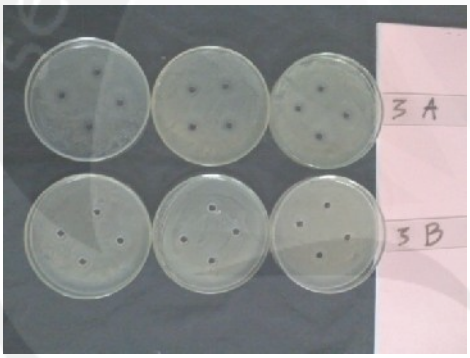
Lampiran 4. Gambar Pembentukan Zona Hambat



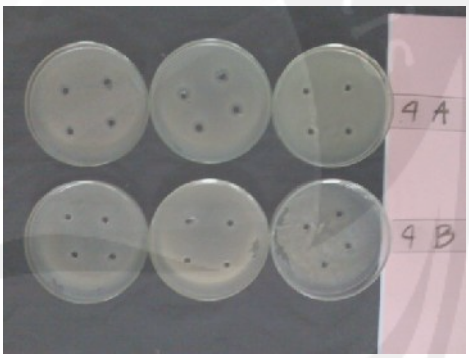
Gambar 29. Hasil Perlakuan Sabun A (baris atas) dan Sabun B (baris bawah) pada Isolat 1



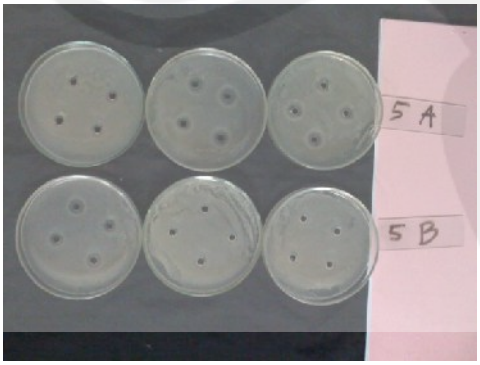
Gambar 30. Hasil Perlakuan Sabun A (baris atas) dan Sabun B (baris bawah) pada Isolat 2



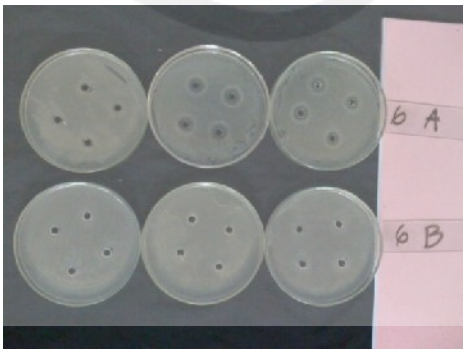
Gambar 31. Hasil Perlakuan Sabun A (baris atas) dan Sabun B (baris bawah) pada Isolat 3



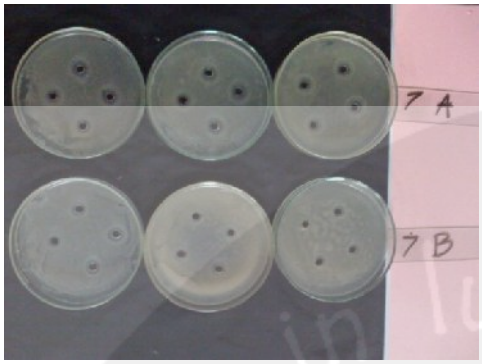
Gambar 32. Hasil Perlakuan Sabun A (baris atas) dan Sabun B (baris bawah) pada Isolat 4



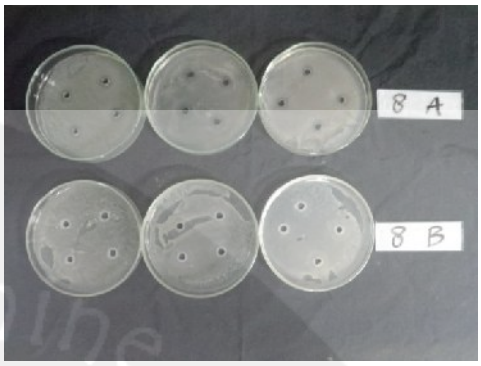
Gambar 33. Hasil Perlakuan Sabun A (baris atas) dan Sabun B (baris bawah) pada Isolat 5



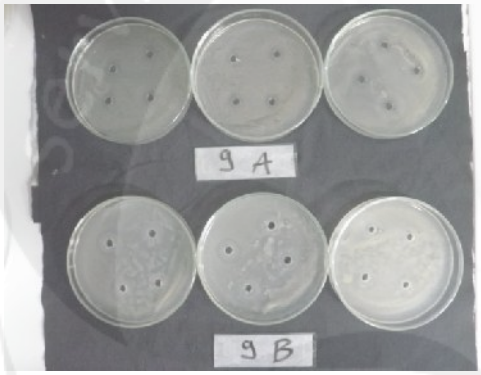
Gambar 34. Hasil Perlakuan Sabun A (baris atas) dan Sabun B (baris bawah) pada Isolat 6



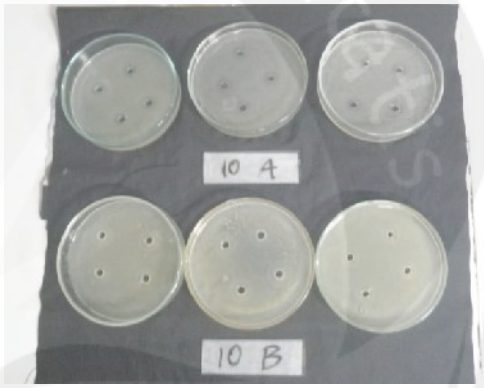
Gambar 35. Hasil Perlakuan Sabun A (baris atas) dan Sabun B (baris bawah) pada Isolat 7



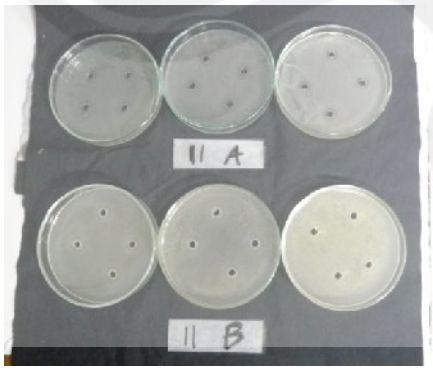
Gambar 36. Hasil Perlakuan Sabun A (baris atas) dan Sabun B (baris bawah) pada Isolat 8



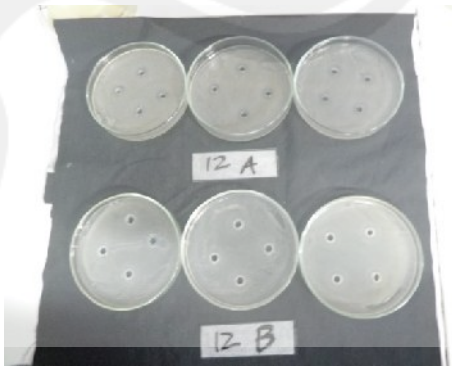
Gambar 37. Hasil Perlakuan Sabun A (baris atas) dan Sabun B (baris bawah) pada Isolat 9



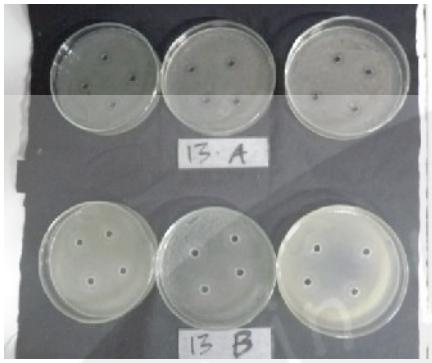
Gambar 38. Hasil Perlakuan Sabun A (baris atas) dan Sabun B (baris bawah) pada Isolat 10



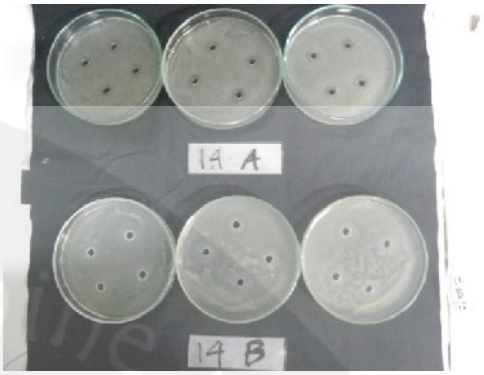
Gambar 39. Hasil Perlakuan Sabun A (baris atas) dan Sabun B (baris bawah) pada Isolat 11



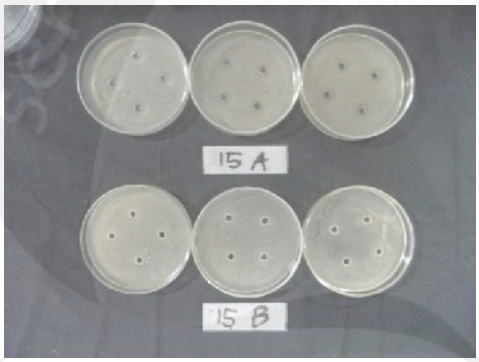
Gambar 40. Hasil Perlakuan Sabun A (baris atas) dan Sabun B (baris bawah) pada Isolat 12



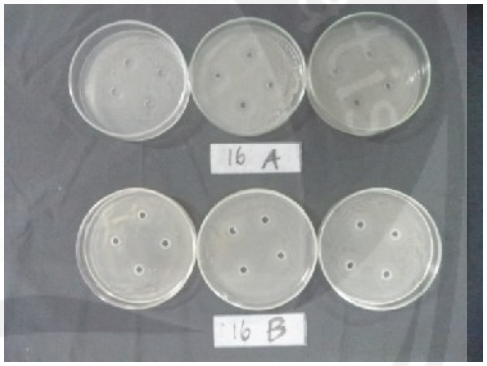
Gambar 41. Hasil Perlakuan Sabun A (baris atas) dan Sabun B (baris bawah) pada Isolat 13



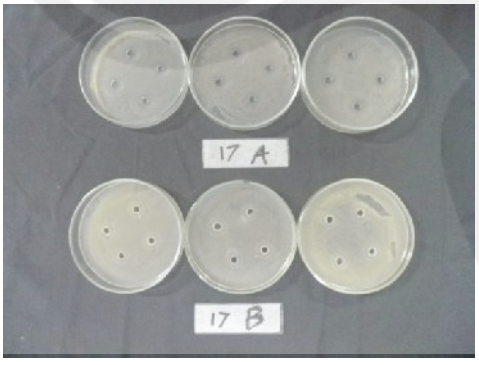
Gambar 42. Hasil Perlakuan Sabun A (baris atas) dan Sabun B (baris bawah) pada Isolat 14



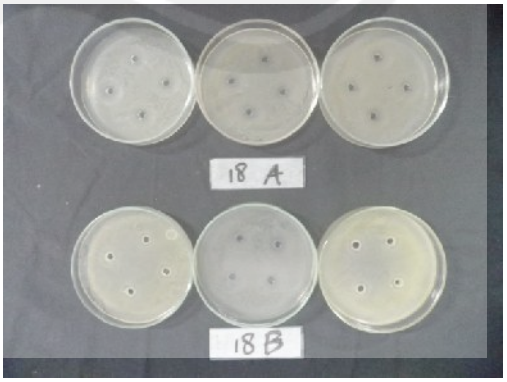
Gambar 43. Hasil Perlakuan Sabun A (baris atas) dan Sabun B (baris bawah) pada Isolat 15



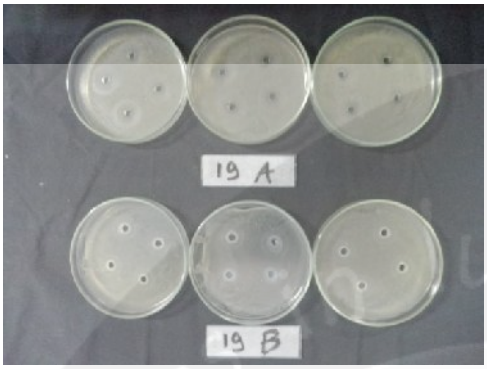
Gambar 44. Hasil Perlakuan Sabun A (baris atas) dan Sabun B (baris bawah) pada Isolat 16



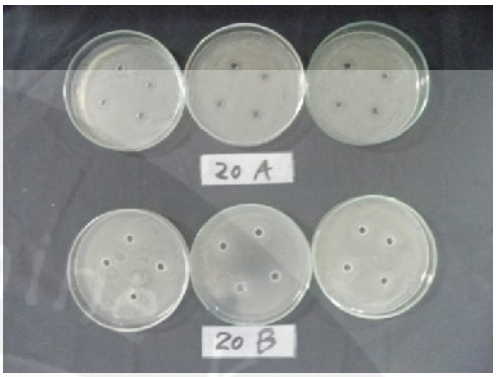
Gambar 45. Hasil Perlakuan Sabun A (baris atas) dan Sabun B (baris bawah) pada Isolat 17



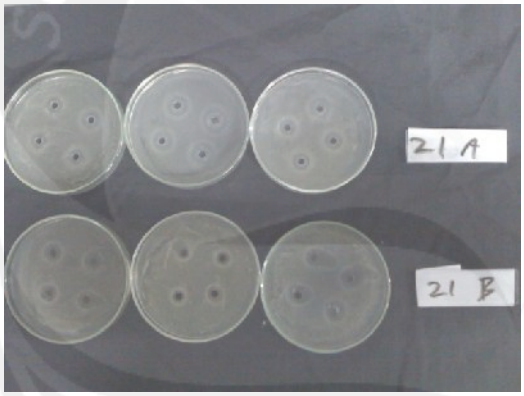
Gambar 46. Hasil Perlakuan Sabun A (baris atas) dan Sabun B (baris bawah) pada Isolat 18



Gambar 47. Hasil Perlakuan Sabun A (baris atas) dan Sabun B (baris bawah) pada Isolat 19



Gambar 48. Hasil Perlakuan Sabun A (baris atas) dan Sabun B (baris bawah) pada Isolat 20



Gambar 49. Hasil Perlakuan Sabun A (baris atas) dan Sabun B (baris bawah) pada Isolat Isolat Kontrol (*Staphylococcus aureus* ATCC 6538)