LAMPIRAN

Lampiran 1
Determinasi

INSTITUT TEKNOLOGI BANDUNG
SEKOLAH ILMU DAN TEKNOLOGI HAYATI
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Nomor : 3434/IT1.C11.2/TA.00/2025 16 Mei 2025
Hal : Determinasi tumbuhan

Yth. Dekan
Fakultas Farmasi
Universitas Bhakti Kencana
Jalan Soekarno Hatta No. 754
Bandung

Menindaklanjuti surat Saudara No. 0303/03.S1-FF/UBK/IV/2025 tanggal 28 April 2025 perihal permintaan determinasi tumbuhan, bersama ini kami informasikan bahwa setelah dilakukan proses identifikasi oleh staf kami, sampel tumbuhan yang dikirim oleh Sdr. Eneng Nuraeni (NPM: 211FF03133), yaitu:

No	Nama sampel	Hasil determinasi	Famili
1.	Bawang putih	*Allium sativum* L.	Amaryllidaceae
2.	Jagung	*Zea mays* L.	Poaceae

Referensi:

1. Anderson, E., & Cutler, H. C. (1942). Races of *Zea mays*: I. Their recognition and classification. *Annals of the Missouri Botanical Garden*, 29(2), 69-88.
2. Backer, C. A. & Bakhuizen Van Den Brink, R. C. (1965). *Flora of Java (Spermatophytes only)*. Vol. 2. N.V.P. Noordhoff.
3. de Wilde-Duyfjes, B. E. (1976). *A revision of the genus Allium* L. *(Liliaceae) in Africa*. Wageningen University and Research.
4. Doebley, J. F., & Iltis, H. H. (1980). Taxonomy of *Zea* (Gramineae). I. A subgeneric classification with key to taxa. *American Journal of Botany*, 67(6), 982-993.

Demikian yang kami sampaikan. Atas perhatian dan kerjasama yang diberikan, kami ucapkan terima kasih.

Wakil Dekan Bidang Sumber Daya,

Angga Dwiartama, S.Si., M.Si., Ph.D.
NIP. 198302052012121002

Tembusan:
1. Dekan SITH ITB

Lampiran 2

Perhitungan Rendemen

Rumus : $\frac{cawan\ isi - cawan\ kosong}{bobot\ simplisia} \times 100\%$

1. Bawang putih

- Bawang putih Tulung Agung 1 : $\frac{2{,}87\ gram}{25\ gram} \times 100\% = 11{,}48\ \%$

- Bawang putih Tulung Agung 2 : $\frac{2{,}8\ gram}{25\ gram} \times 100\% = 11{,}2\ \%$

- Bawang putih Tulung Agung 3 : $\frac{2{,}62\ gram}{25\ gram} \times 100\% = 10{,}48\ \%$

- Bawang putih Tulung Agung 4 : $\frac{2{,}52\ gram}{25\ gram} \times 100\% = 10{,}08\ \%$

- Bawang putih Tulung Agung 5 : $\frac{3{,}02\ gram}{25\ gram} \times 100\% = 12{,}08\ \%$

- Bawang putih Tulung Agung 6 : $\frac{2{,}52\ gram}{25\ gram} \times 100\% = 10{,}08\ \%$

- Bawang putih Lembang 1 : $\frac{2{,}66\ gram}{25\ gram} \times 100\% = 10{,}64\ \%$

- Bawang putih Lembang 2 : $\frac{2{,}63\ gram}{25\ gram} \times 100\% = 10{,}52\ \%$

- Bawang putih Lembang 3 : $\frac{2{,}6\ gram}{25\ gram} \times 100\% = 10{,}4\ \%$

- Bawang putih Lembang 4 : $\frac{2{,}53\ gram}{25\ gram} \times 100\% = 10{,}12\ \%$

- Bawang putih Lembang 5 : $\frac{2{,}71\ gram}{25\ gram} \times 100\% = 10{,}84\ \%$

- Bawang putih Lembang 6 : $\frac{2{,}57\ gram}{25\ gram} \times 100\% = 10{,}28\ \%$

- Bawang putih Magelang 1 : $\frac{3{,}42\ gram}{25\ gram} \times 100\% = 13{,}68\ \%$

- Bawang putih Magelang 2 : $\frac{3{,}74\ gram}{25\ gram} \times 100\% = 14{,}96\ \%$

- Bawang putih Magelang 3 : $\frac{3{,}23\ gram}{25\ gram} \times 100\% = 12{,}92\ \%$

- Bawang putih Magelang 4 : $\frac{2{,}61\ gram}{25\ gram} \times 100\% = 10{,}44\%$

- Bawang putih Magelang 5 : $\frac{3{,}35\ gram}{25\ gram} \times 100\% = 13{,}4\ \%$

- Bawang putih Magelang 6 : $\frac{3{,}3\ gram}{25\ gram} \times 100\% = 13{,}2\ \%$

2. Jagung

- Jagung Tulung Agung 1 : $\frac{2{,}51\ gram}{25\ gram} \times 100\% = 10{,}04\ \%$

- Jagung Tulung Agung 2 : $\frac{2{,}53\ gram}{25\ gram} \times 100\% = 10{,}12\ \%$

- Jagung Tulung Agung 3 : $\frac{2{,}5\ gram}{25\ gram} \times 100\% = 10\ \%$

- Jagung Tulung Agung 4 : $\frac{2{,}51\ gram}{25\ gram} \times 100\% = 10{,}04\ \%$

- Jagung Tulung Agung 5 : $\frac{2{,}55\ gram}{25\ gram} \times 100\% = 10{,}2\ \%$

- Jagung Tulung Agung 6 : $\frac{2{,}52\ gram}{25\ gram} \times 100\% = 10{,}08\ \%$

- Jagung Demak 1 : $\frac{2{,}57\ gram}{25\ gram} \times 100\% = 10{,}28\ \%$

- Jagung Demak 2 : $\frac{2{,}52\ gram}{25\ gram} \times 100\% = 10{,}08\ \%$

- Jagung Demak 3 : $\frac{2{,}55\ gram}{25\ gram} \times 100\% = 10{,}2\ \%$

- Jagung Demak 4 : $\frac{2{,}58\ gram}{25\ gram} \times 100\% = 10{,}32\ \%$

- Jagung Demak 5 : $\frac{2{,}51\ gram}{25\ gram} \times 100\% = 10{,}04\ \%$

- Jagung Demak 6 : $\frac{2{,}57\ gram}{25\ gram} \times 100\% = 10{,}28\ \%$

- Jagung Bandung 1 : $\frac{2{,}54\ gram}{25\ gram} \times 100\% = 10{,}16\ \%$

- Jagung Bandung 2 : $\frac{2{,}57\ gram}{25\ gram} \times 100\% = 10{,}28\ \%$

- Jagung Bandung 3 : $\frac{2{,}5\ gram}{25\ gram} \times 100\% = 10\ \%$

- Jagung Bandung 4 : $\frac{2{,}59\ gram}{25\ gram} \times 100\% = 10{,}36\ \%$

- Jagung Bandung 5 : $\frac{2{,}53\ gram}{25\ gram} \times 100\% = 10{,}12\ \%$

- Jagung Bandung 6 : $\frac{2{,}52\ gram}{25\ gram} \times 100\% = 10{,}08\ \%$

3. Sampel A

- Sampel A 1 : $\frac{3{,}5\ gram}{25\ gram} \times 100\% = 14\ \%$

- Sampel A 2 : $\frac{3{,}96\ gram}{25\ gram} \times 100\% = 15{,}84\ \%$

- Sampel A 3 : $\frac{3{,}55\ gram}{25\ gram} \times 100\% = 14{,}2\ \%$

- Sampel A 4 : $\frac{3{,}86\ gram}{25\ gram} \times 100\% = 15{,}44\ \%$

- Sampel A 5 : $\frac{3{,}71\ gram}{25\ gram} \times 100\% = 14{,}84\ \%$

- Sampel A 6 : $\frac{3{,}31\ gram}{25\ gram} \times 100\% = 13{,}24\ \%$

4. Sampel B

- Sampel B 1 : $\frac{3{,}41\ gram}{25\ gram} \times 100\% = 13{,}64\ \%$

- Sampel B 2 : $\frac{3{,}32\ gram}{25\ gram} \times 100\% = 13{,}28\ \%$

- Sampel B 3 : $\frac{3{,}38\ gram}{25\ gram} \times 100\% = 13{,}52\ \%$

- Sampel B 4 : $\frac{3{,}4\ gram}{25\ gram} \times 100\% = 13{,}6\ \%$

- Sampel B 5 : $\frac{3,29\ gram}{25\ gram} \times 100\% = 13,16\ \%$

- Sampel B 6 : $\frac{3,32\ gram}{25\ gram} \times 100\% = 13,28\ \%$

5. Sampel C

- Sampel C 1 : $\frac{2,94\ gram}{25\ gram} \times 100\% = 11,76\ \%$

- Sampel C 2 : $\frac{2,87\ gram}{25\ gram} \times 100\% = 11,48\ \%$

- Sampel C 3 : $\frac{2,83\ gram}{25\ gram} \times 100\% = 11,32\ \%$

- Sampel C 4 : $\frac{2,96\ gram}{25\ gram} \times 100\% = 11,84\ \%$

- Sampel C 5 : $\frac{2,79\ gram}{25\ gram} \times 100\% = 11,16\ \%$

- Sampel C 6 : $\frac{3,1\ gram}{25\ gram} \times 100\% = 12,4\ \%$

6. Simulasi 5%

- Sampel 5% 1 : $\frac{2,82\ gram}{25\ gram} \times 100\% = 11,28\ \%$

- Sampel 5% 2 : $\frac{2,67\ gram}{25\ gram} \times 100\% = 10,68\ \%$

- Sampel 5% 3 : $\frac{2,88\ gram}{25\ gram} \times 100\% = 11,52\ \%$

- Sampel 5% 4 : $\frac{2,71\ gram}{25\ gram} \times 100\% = 10,84\ \%$

- Sampel 5% 5 : $\frac{2,63\ gram}{25\ gram} \times 100\% = 10,52\ \%$

- Sampel 5% 6 : $\frac{2,77\ gram}{25\ gram} \times 100\% = 11,08\ \%$

7. Simulasi 10%

- Sampel 10% 1 : $\frac{3\ gram}{25\ gram} \times 100\% = 12\ \%$

- Sampel 10% 2 : $\frac{3{,}31\ gram}{25\ gram} \times 100\% = 13{,}24\ \%$

- Sampel 10% 3 : $\frac{3{,}26\ gram}{25\ gram} \times 100\% = 13{,}04\ \%$

- Sampel 10% 4 : $\frac{3{,}11\ gram}{25\ gram} \times 100\% = 12{,}44\ \%$

- Sampel 10% 5 : $\frac{3{,}27\ gram}{25\ gram} \times 100\% = 13{,}08\ \%$

- Sampel 10% 6 : $\frac{3{,}39\ gram}{25\ gram} \times 100\% = 13{,}56\ \%$

8. Simulasi 15%

- Sampel 15% 1 : $\frac{3{,}67\ gram}{25\ gram} \times 100\% = 14{,}68\ \%$

- Sampel 15% 2 : $\frac{3{,}59\ gram}{25\ gram} \times 100\% = 14{,}36\ \%$

- Sampel 15% 3 : $\frac{3{,}6\ gram}{25\ gram} \times 100\% = 14{,}4\ \%$

- Sampel 15% 4 : $\frac{3{,}74\ gram}{25\ gram} \times 100\% = 14{,}96\ \%$

- Sampel 15% 5 : $\frac{3{,}66\ gram}{25\ gram} \times 100\% = 14{,}64\ \%$

- Sampel 15% 6 : $\frac{3{,}55\ gram}{25\ gram} \times 100\% = 14{,}2\ \%$

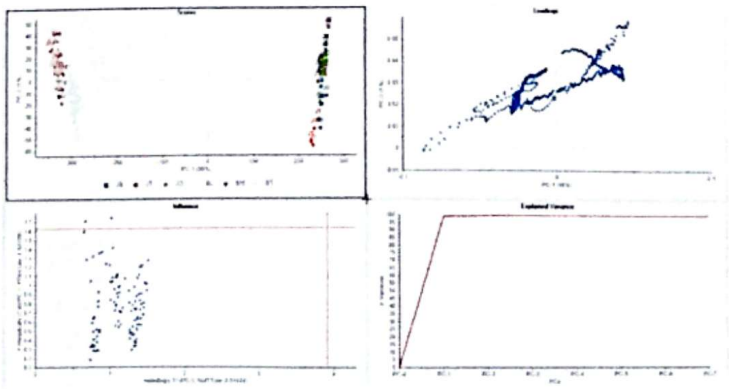
Lampiran 3

Data transformasi PCA

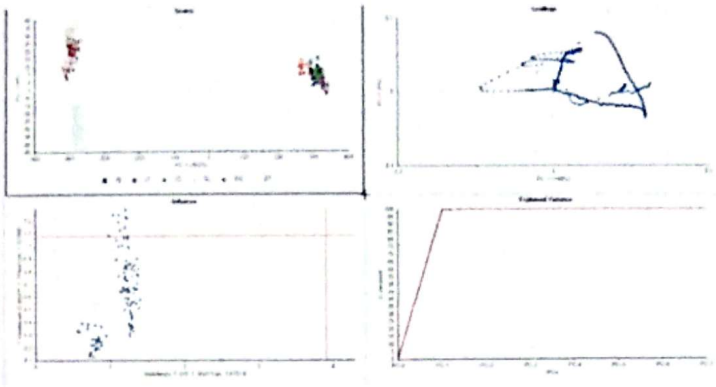
No.	PCA	Transformasi				PC		
		Baseline	Smoothing	SNV	Normalize	PC-1	PC-2	PC-3
1.	PCA 1	√	-	-	-	99%	1%	1%
2.	PCA 2	-	√	-	-	100%	0%	0%
3.	PCA 3	-	-	√	-	99%	1%	1%
4.	PCA 4	-	-	-	√	100%	0%	0%
5.	PCA 5	√	-	√	-	99%	1%	1%
6.	PCA 6	-	-	√	√	99%	1%	1%
7.	PCA 7	√	√	-	-	99%	1%	1%
8.	PCA 8	√	√	√	-	99%	1%	1%
9.	PCA 9	√	√	-	√	100%	0%	0%
10.	PCA 10	-	√	√	√	100%	0%	0%
11.	PCA 11	√	√	√	√	99%	1%	1%
12.	PCA 12	√	-	-	√	100%	0%	0%
13.	PCA 13	√	-	√	√	99%	1%	1%
14.	PCA 14	-	√	-	√	100%	0%	0%

PCA

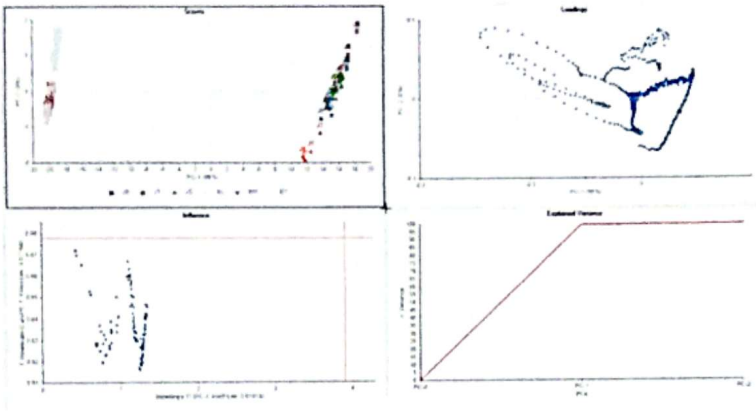
1) Baseline



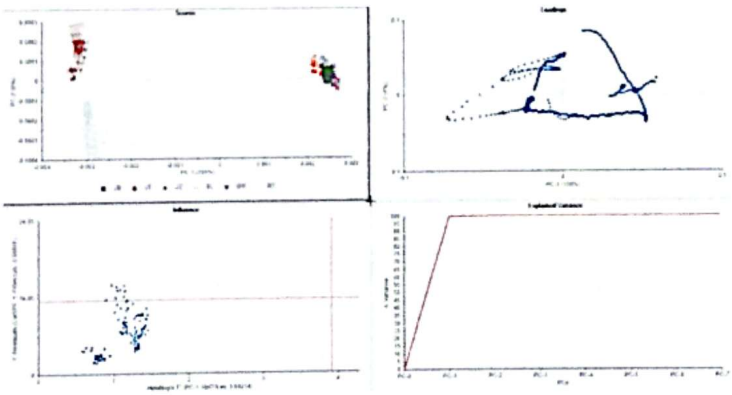
2) Smoothing



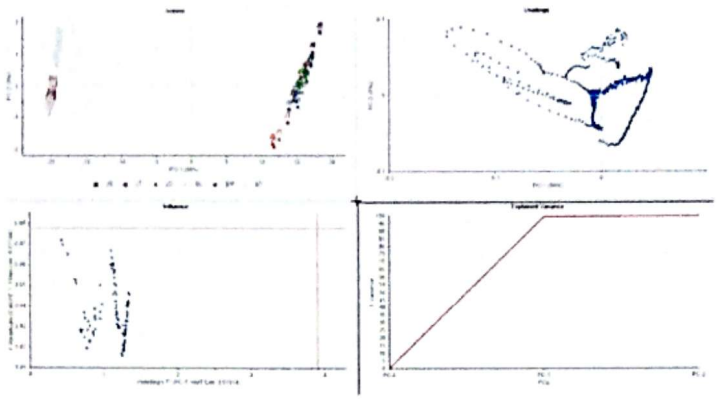
3) SNV



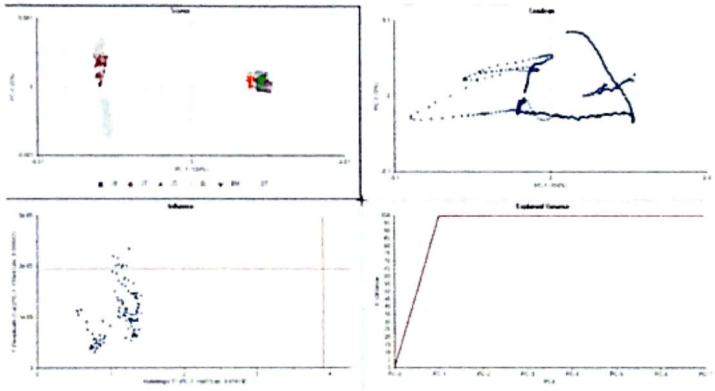
4) Normalize



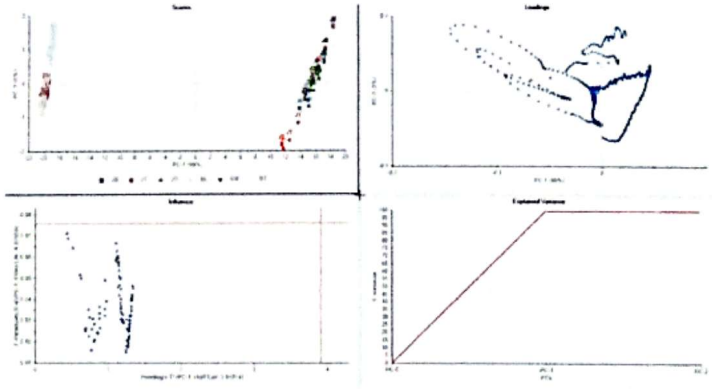
5) Baseline + SNV



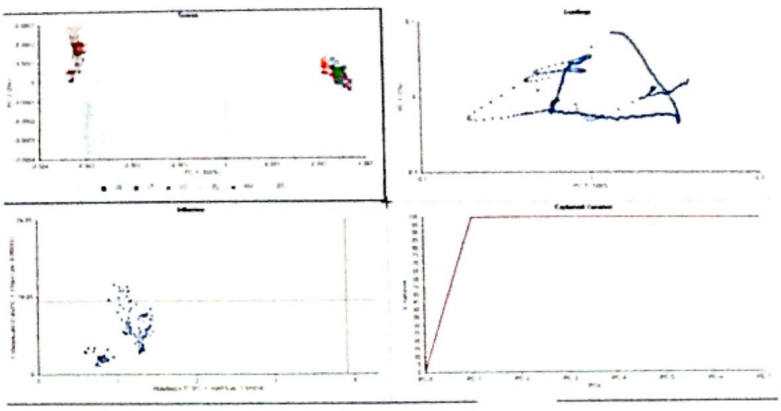
6) Baseline + Normalize



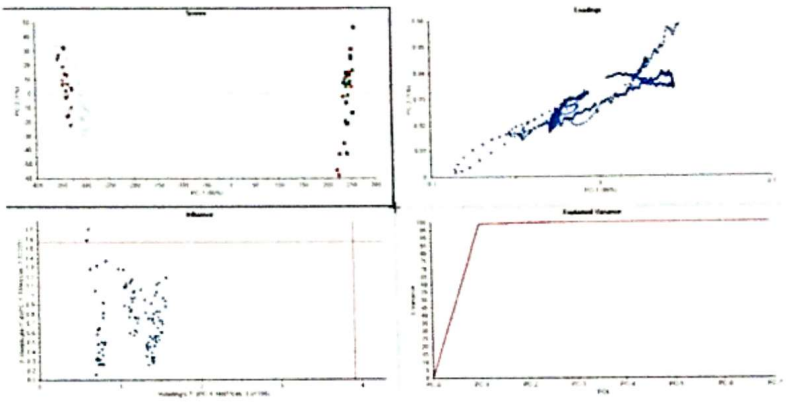
7) SNV + Normalize



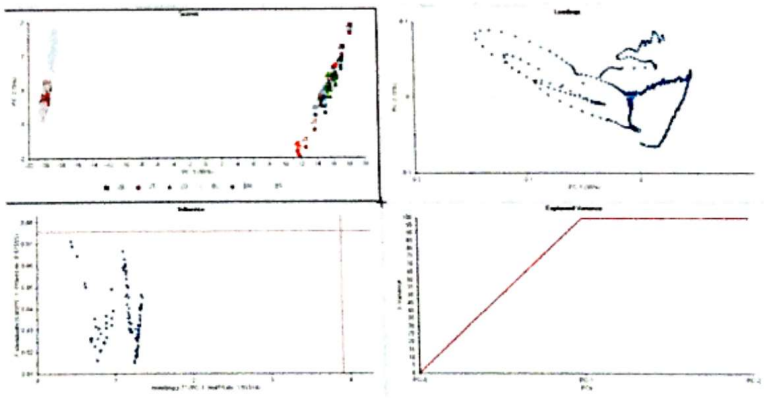
8) Normalize + Smoothing



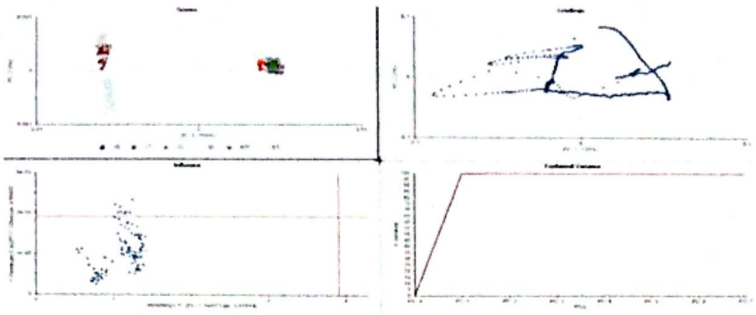
9) Baseline + smoothing



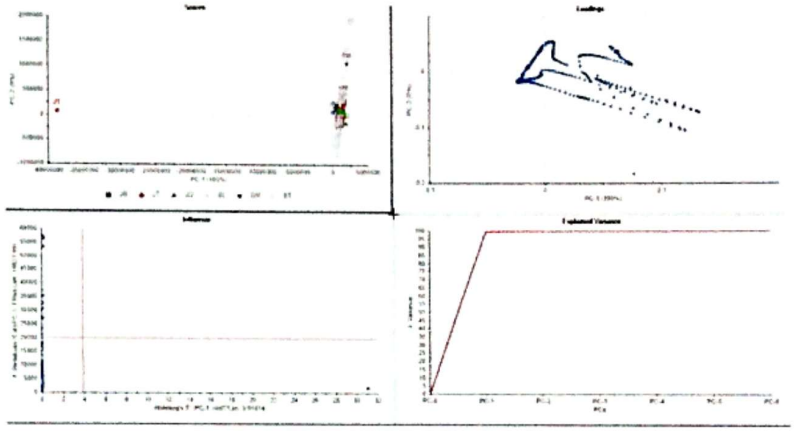
10) Baseline + Smoothing + SNV



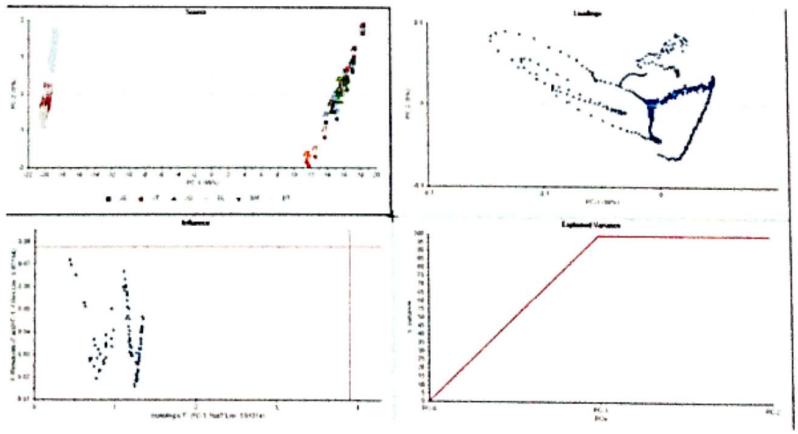
11) Baseline + smoothing + normal



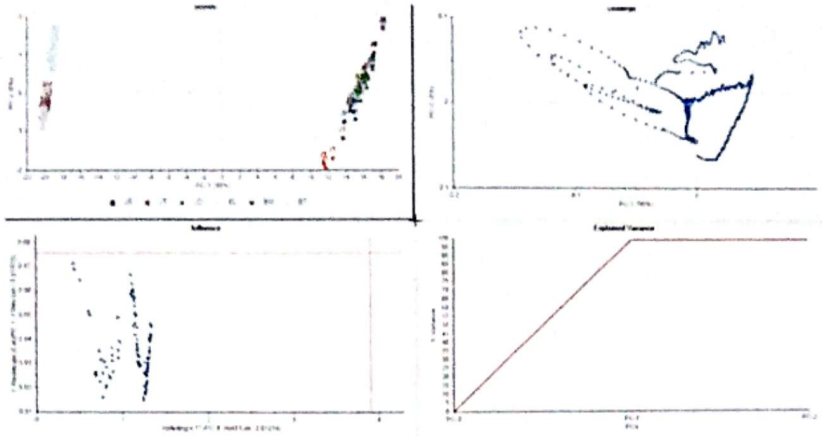
12) Smoothing + snv + normalize



13) Baseline + snv + normal



14) Baseline + smoothing + normaliza + snv



Lampiran 4

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Lampiran 5

Daftar bimbingan

No	Tanggal	Dosen Pembimbing	Topik	Disetujui	Aksi
1	7 Maret 2025	IVAN ANDRIANSYAH	Proses maserasi	✔	
1	12 Maret 2025	Dr. apt. FAUZAN ZEIN MUTTAQIN, M.Si.	proses deskator	✔	
2	8 April 2025	Dr. apt. FAUZAN ZEIN MUTTAQIN, M.Si.	Terkait FTIR	✔	
2	15 April 2025	IVAN ANDRIANSYAH	Konsultasi terkait hasil pemekatan sampel	✔	
3	2 Mei 2025	Dr. apt. FAUZAN ZEIN MUTTAQIN, M.Si.	Memasukkan data hasil FTIR ke excel	✔	
3	27 Mei 2025	IVAN ANDRIANSYAH	konsultasi terkait simulasi sampel	✔	
4	5 Mei 2025	Dr. apt. FAUZAN ZEIN MUTTAQIN, M.Si.	aplikasi unscrambler	✔	
4	21 Mei 2025	IVAN ANDRIANSYAH	konsultasi terkait install aplikasi pca	✔	
5	3 Juni 2025	IVAN ANDRIANSYAH	konsultasi pca	✔	
5	5 Juni 2025	Dr. apt. FAUZAN ZEIN MUTTAQIN, M.Si.	konsultasi pca	✔	
6	12 Juni 2025	Dr. apt. FAUZAN ZEIN MUTTAQIN, M.Si.	melaporkan hasil spektrum dan masukan terkait tahap berikutnya	✔	
6	6 Juni 2025	IVAN ANDRIANSYAH	kemajuan 2	✔	
7	23 Juni 2025	Dr. apt. FAUZAN ZEIN MUTTAQIN, M.Si.	konsultasi terkait hasil pca	✔	
7	18 Juni 2025	IVAN ANDRIANSYAH	konsultasi terkait spektrum	✔	
8	4 Juli 2025	Dr. apt. FAUZAN ZEIN MUTTAQIN, M.Si.	laporan draft skripsi	✔	
8	1 Juli 2025	IVAN ANDRIANSYAH	konsultasi hasil data pca	✔	