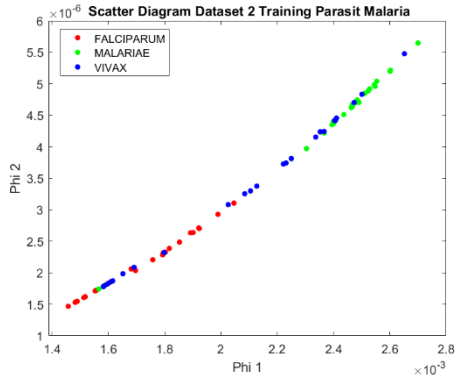
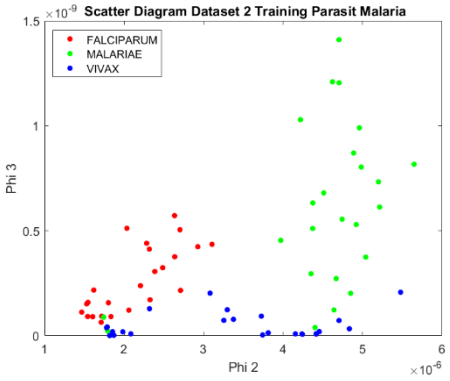
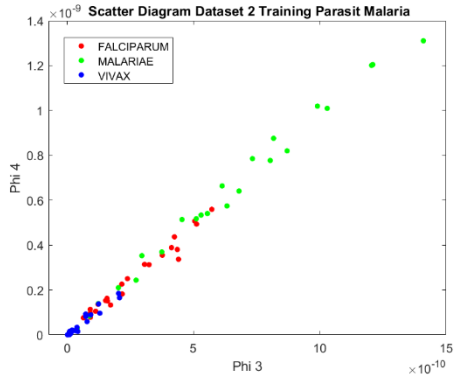
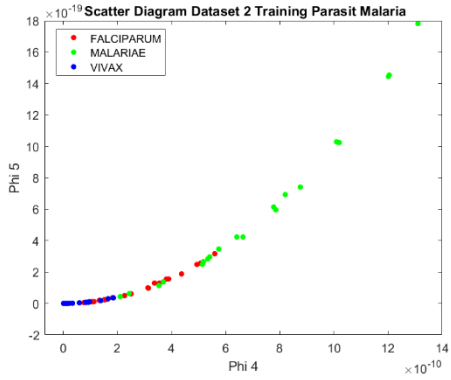
LAMPIRAN

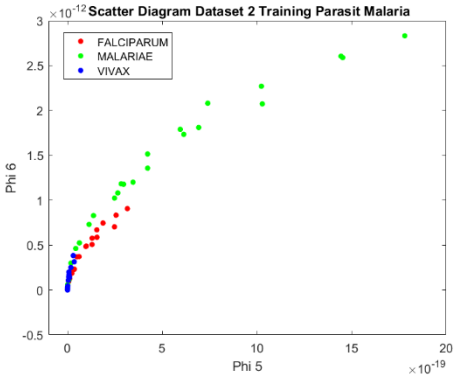
Scatter Diagram Dataset 2 *Training*

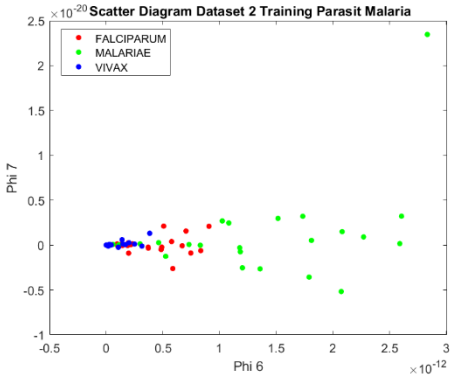




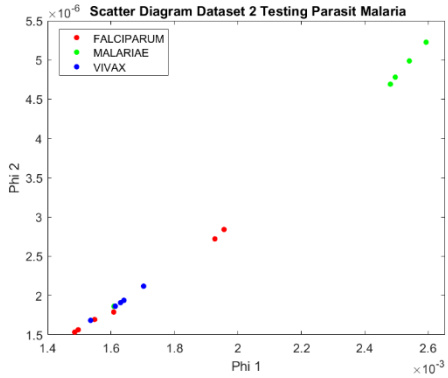


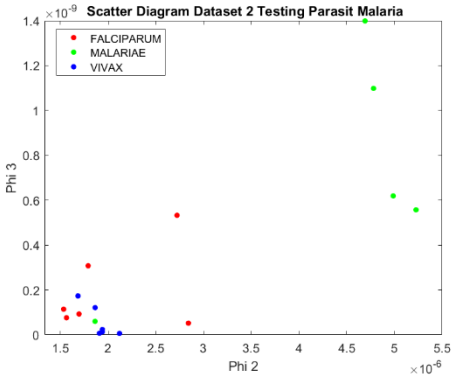


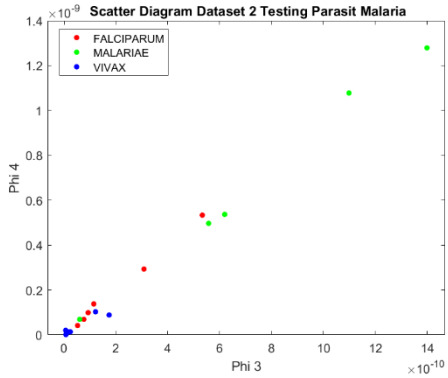


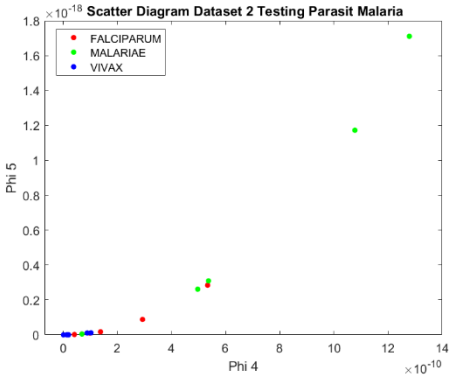


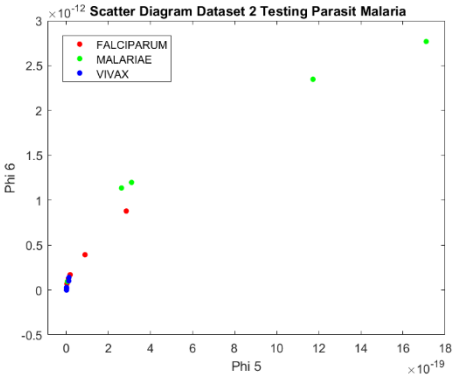
Scatter Diagram Dataset 2 *Testing*

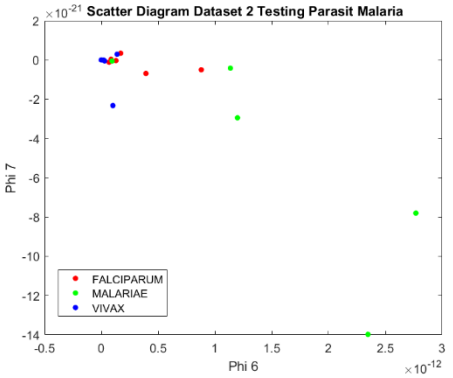




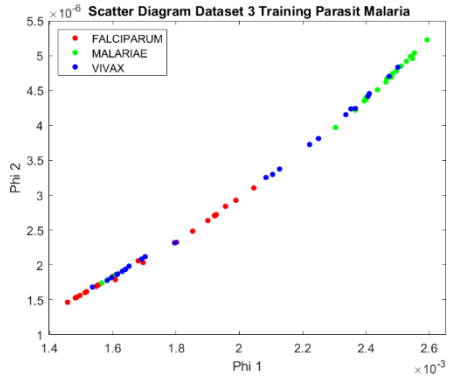


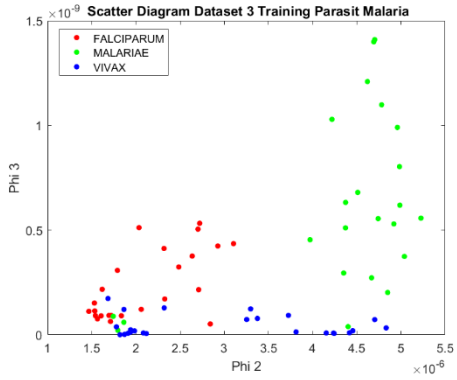


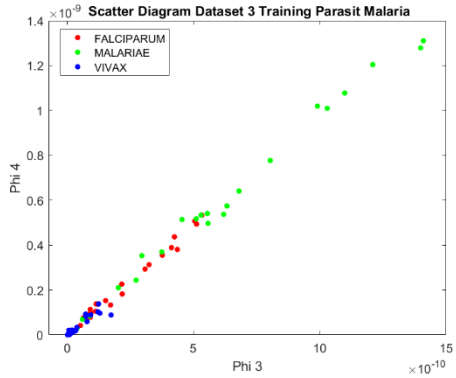


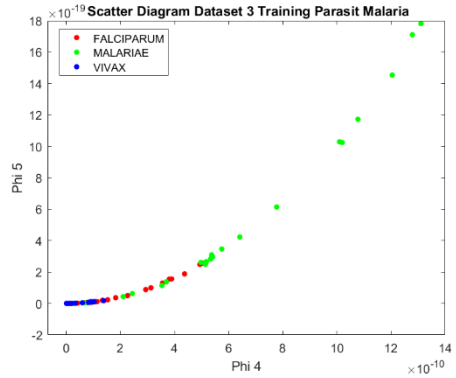


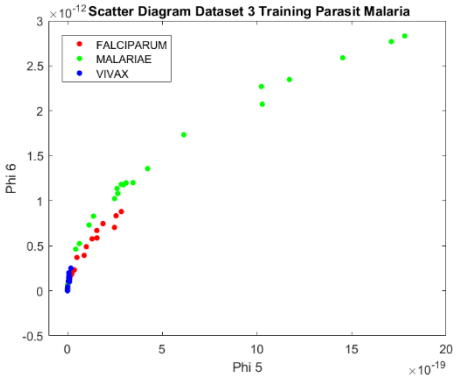
Scatter Diagram Dataset 3 *Training*

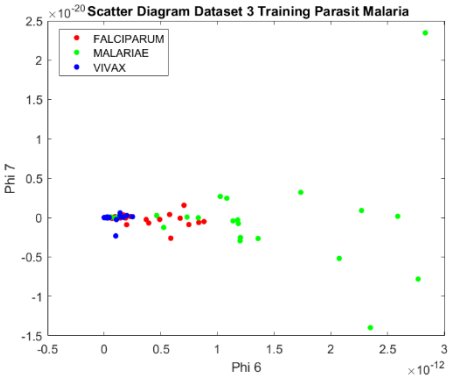




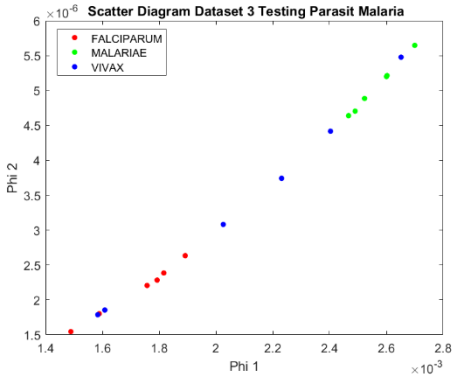


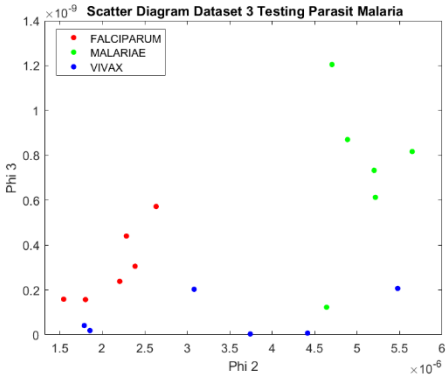


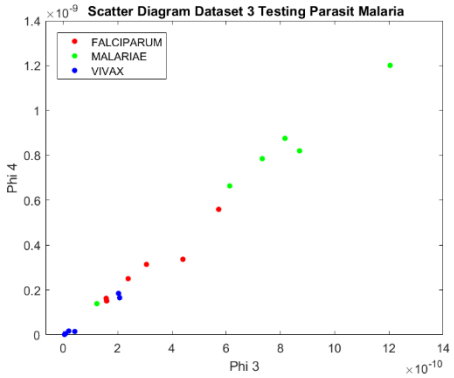


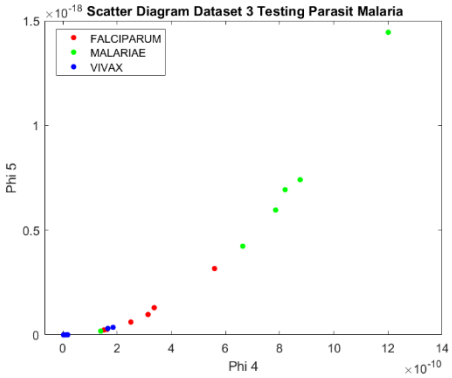


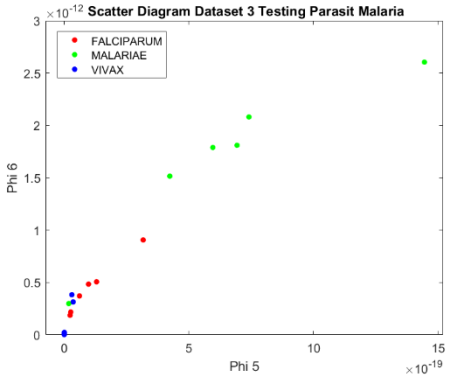
Scatter Diagram Dataset 3 *Testing*

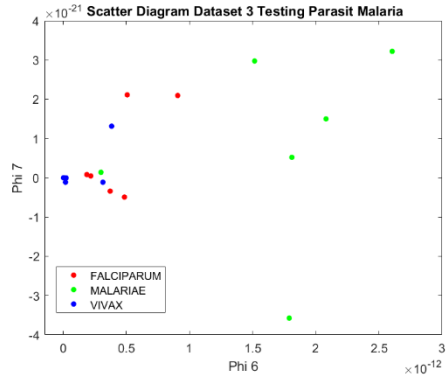




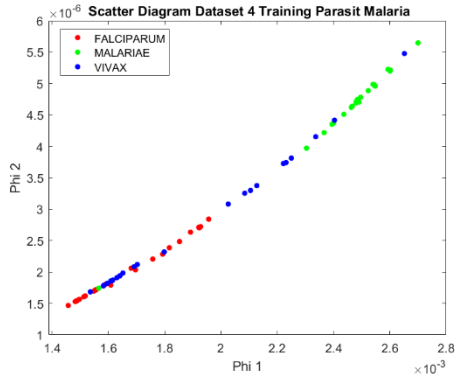


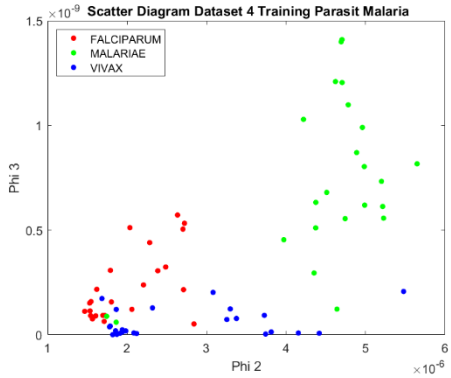


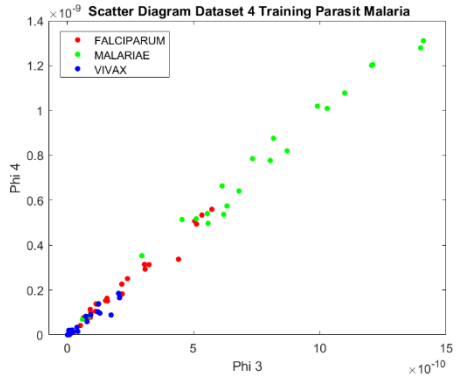


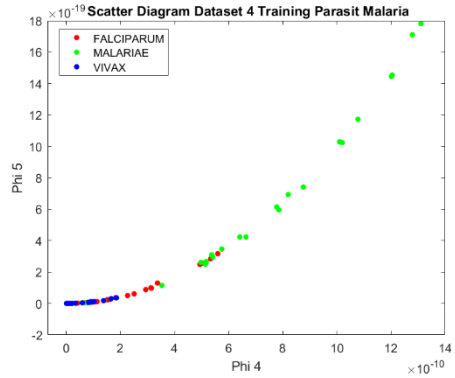


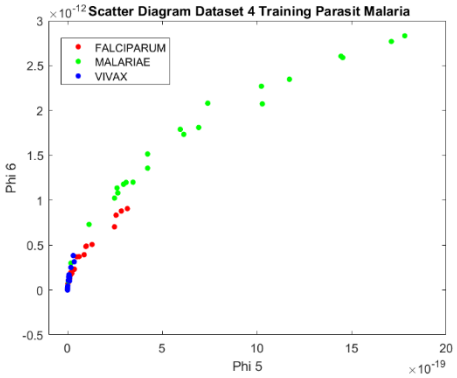
Scatter Diagram Dataset 4 *Training*

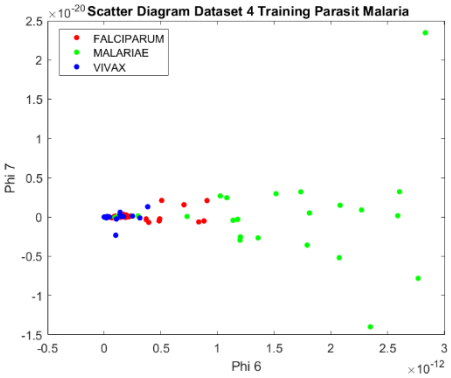




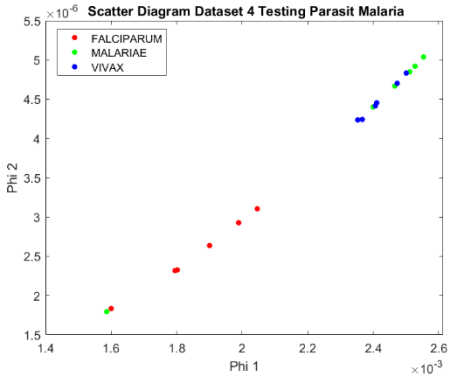


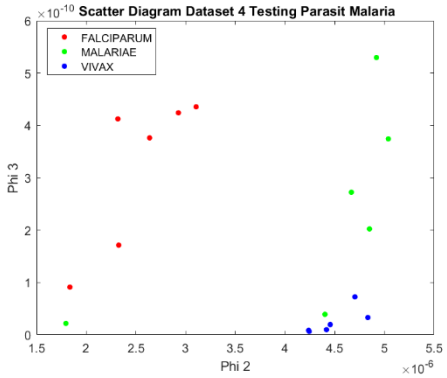


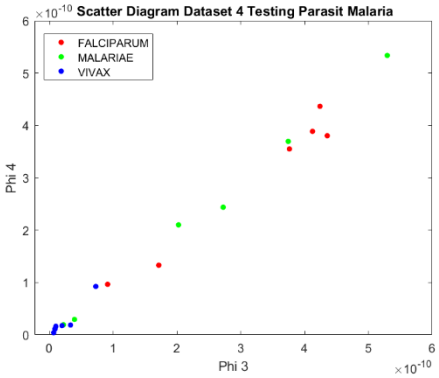


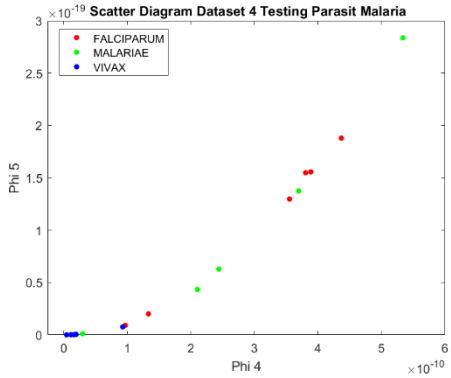


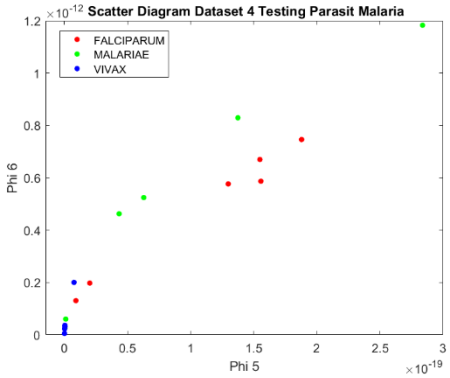
Scatter Diagram Dataset 4 *Testing*

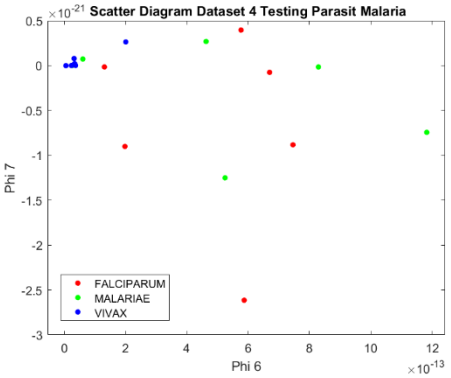




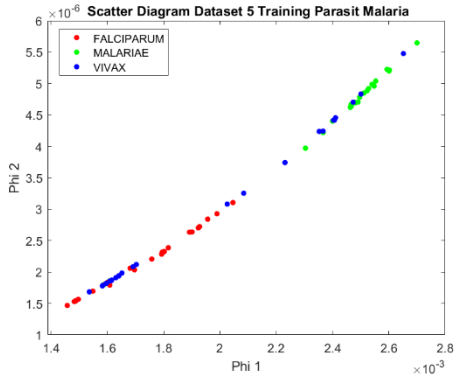


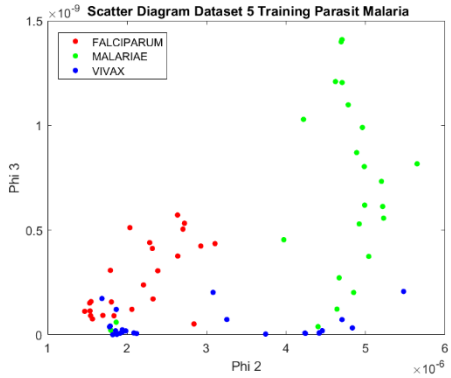


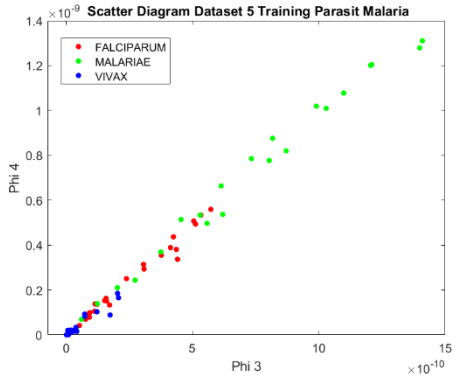


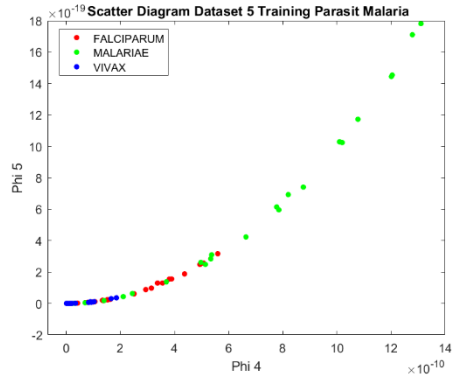


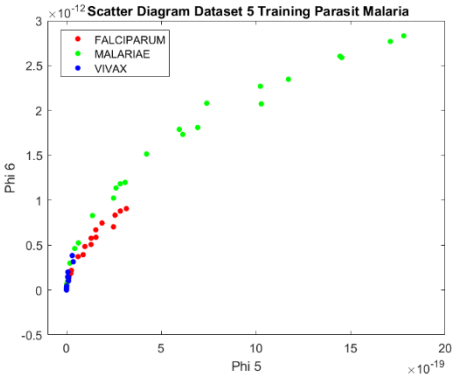
Scatter Diagram Dataset 5 *Training*

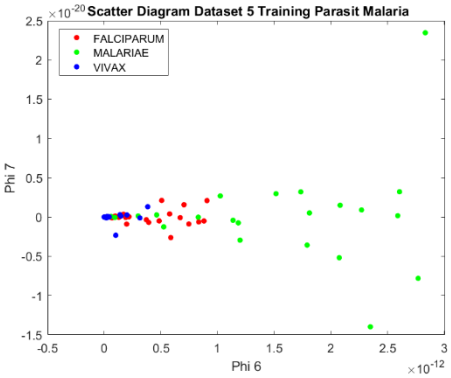




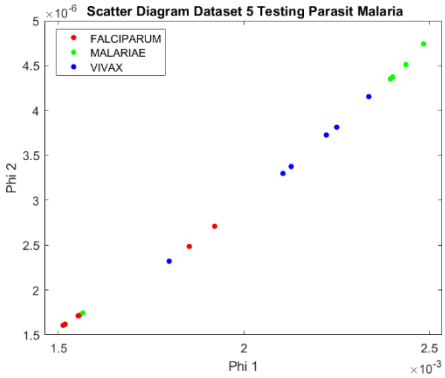


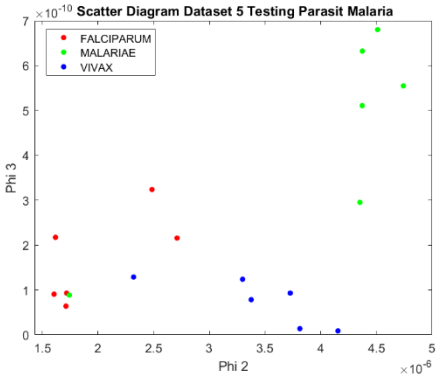


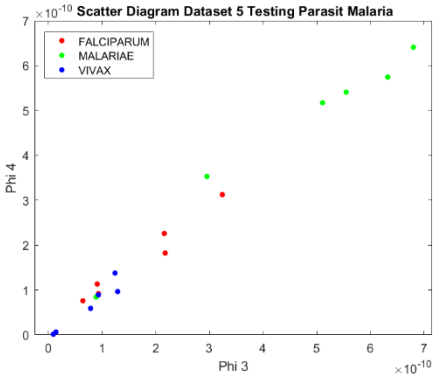


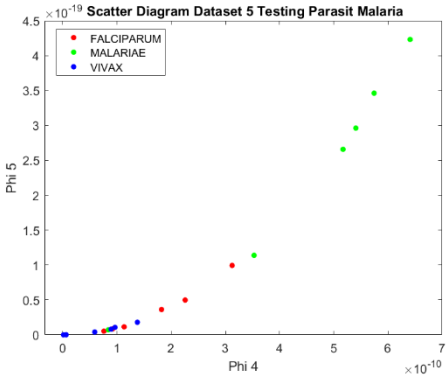


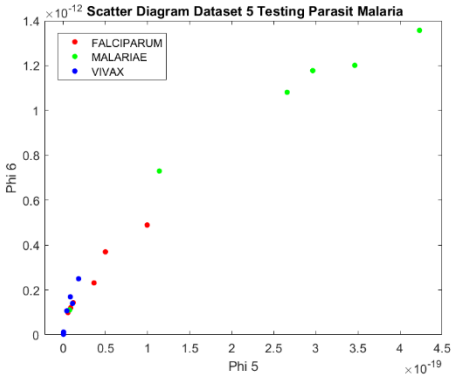
Scatter Diagram Dataset 5 *Testing*

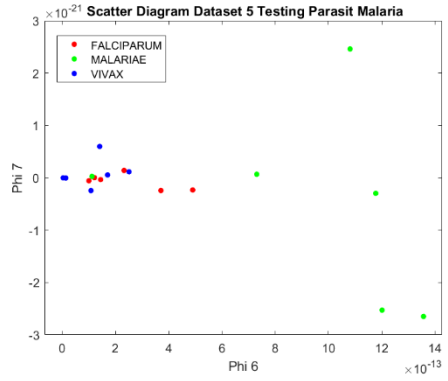












Tabel Nilai Ekstraksi Fitur Kelas *Falciparum*

Nama Citra/Kelas	Phi 1	Phi 2	Phi 3	Phi 4	Phi 5	Phi 6	Phi 7
fal(1).bmp	0.001518	1.62E-06	2.17E-10	1.82E-10	3.63E-20	2.32E-13	1.4E-22
fal(10).bmp	0.001901	2.64E-06	3.76E-10	3.55E-10	1.3E-19	5.77E-13	3.96E-22
fal(11).bmp	0.001802	2.33E-06	1.71E-10	1.33E-10	2E-20	1.98E-13	-9E-22
fal(12).bmp	0.002046	3.11E-06	4.36E-10	3.8E-10	1.55E-19	6.7E-13	-7.5E-23
fal(13).bmp	0.001758	2.21E-06	2.38E-10	2.5E-10	6.12E-20	3.71E-13	-3.4E-22
fal(14).bmp	0.001892	2.63E-06	5.72E-10	5.6E-10	3.17E-19	9.06E-13	2.1E-21
fal(15).bmp	0.001793	2.28E-06	4.4E-10	3.37E-10	1.3E-19	5.07E-13	2.11E-21
fal(16).bmp	0.001816	2.39E-06	3.06E-10	3.14E-10	9.73E-20	4.84E-13	-4.9E-22
fal(17).bmp	0.001589	1.8E-06	1.57E-10	1.63E-10	2.6E-20	2.18E-13	4.61E-23
fal(18).bmp	0.001489	1.55E-06	1.59E-10	1.51E-10	2.34E-20	1.87E-13	8.2E-23
fal(19).bmp	0.001497	1.56E-06	7.61E-11	6.92E-11	5.02E-21	8.58E-14	3.72E-23
fal(2).bmp	0.001853	2.49E-06	3.24E-10	3.13E-10	9.94E-20	4.89E-13	-2.3E-22
fal(20).bmp	0.001486	1.53E-06	1.14E-10	1.38E-10	1.73E-20	1.7E-13	3.44E-22
fal(21).bmp	0.001956	2.84E-06	5.19E-11	4.14E-11	1.92E-21	6.84E-14	-1.2E-22
fal(22).bmp	0.001548	1.7E-06	9.28E-11	9.89E-11	9.48E-21	1.29E-13	-3.2E-23
fal(23).bmp	0.001927	2.72E-06	5.33E-10	5.33E-10	2.84E-19	8.8E-13	-5E-22
fal(24).bmp	0.001608	1.79E-06	3.08E-10	2.93E-10	8.81E-20	3.92E-13	-6.9E-22
fal(25).bmp	0.001923	2.7E-06	5.05E-10	5.07E-10	2.57E-19	8.33E-13	-6.2E-22
fal(26).bmp	0.001457	1.47E-06	1.12E-10	1.05E-10	1.14E-20	1.26E-13	7.5E-23
fal(27).bmp	0.001486	1.54E-06	9.15E-11	7.83E-11	6.63E-21	9.65E-14	1.34E-22
fal(28).bmp	0.001482	1.53E-06	1.52E-10	1.53E-10	2.32E-20	1.89E-13	-4.1E-23
fal(29).bmp	0.001681	2.06E-06	1.22E-10	1.37E-10	1.76E-20	1.95E-13	2.44E-22
fal(3).bmp	0.001513	1.61E-06	9.07E-11	1.13E-10	1.15E-20	1.43E-13	-3.5E-23
fal(30).bmp	0.001696	2.04E-06	5.12E-10	4.94E-10	2.48E-19	7.03E-13	1.57E-21
fal(4).bmp	0.001553	1.71E-06	6.39E-11	7.59E-11	5.29E-21	9.92E-14	-5.7E-23
fal(5).bmp	0.001921	2.71E-06	2.16E-10	2.26E-10	4.99E-20	3.7E-13	-2.4E-22
fal(6).bmp	0.001557	1.72E-06	9.3E-11	9.19E-11	8.49E-21	1.2E-13	1.71E-24
fal(7).bmp	0.001795	2.32E-06	4.12E-10	3.89E-10	1.56E-19	5.87E-13	-2.6E-21
fal(8).bmp	0.0016	1.84E-06	9.11E-11	9.65E-11	9.05E-21	1.31E-13	-1.5E-23
fal(9).bmp	0.001989	2.93E-06	4.24E-10	4.37E-10	1.88E-19	7.46E-13	-8.8E-22
Rata-rata	**0.001704**	**2.11E-06**	**2.49E-10**	**2.4E-10**	**8.31E-20**	**3.63E-13**	**-2E-23**
Standard Deviasi	**0.000187**	**5.07E-07**	**1.65E-10**	**1.57E-10**	**9.41E-20**	**2.66E-13**	**8.65E-22**

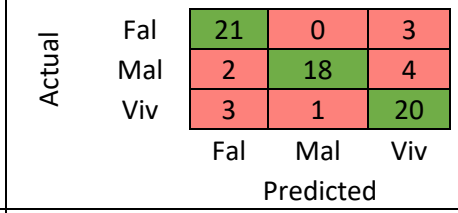
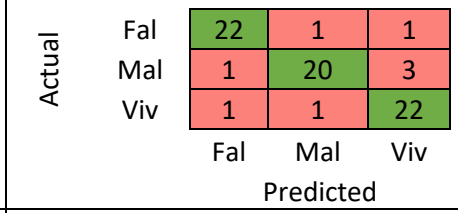
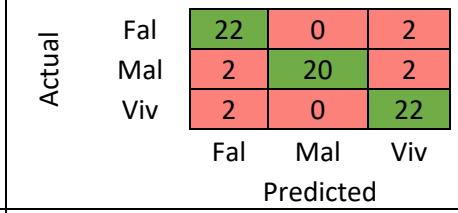
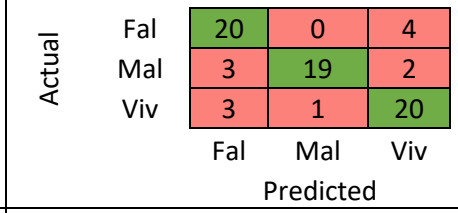
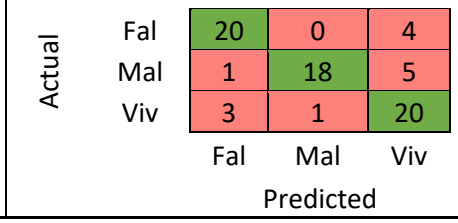
Tabel Nilai Ekstraksi Fitur Kelas *Malariae*

Nama Citra/Kelas	Phi 1	Phi 2	Phi 3	Phi 4	Phi 5	Phi 6	Phi 7
mal(1).bmp	0.002484	4.74E-06	5.55E-10	5.41E-10	2.96E-19	1.18E-12	-3E-22
mal(10).bmp	0.002512	4.85E-06	2.02E-10	2.1E-10	4.33E-20	4.62E-13	2.69E-22
mal(11).bmp	0.002466	4.67E-06	2.72E-10	2.44E-10	6.28E-20	5.24E-13	-1.3E-21
mal(12).bmp	0.0024	4.4E-06	3.92E-11	2.94E-11	9.92E-22	6.02E-14	7.32E-23
mal(13).bmp	0.002467	4.64E-06	1.23E-10	1.39E-10	1.81E-20	2.99E-13	1.39E-22
mal(14).bmp	0.002602	5.21E-06	6.13E-10	6.64E-10	4.23E-19	1.52E-12	2.97E-21
mal(15).bmp	0.002601	5.2E-06	7.33E-10	7.85E-10	5.96E-19	1.79E-12	-3.6E-21
mal(16).bmp	0.0027	5.65E-06	8.17E-10	8.76E-10	7.41E-19	2.08E-12	1.5E-21
mal(17).bmp	0.002523	4.89E-06	8.7E-10	8.2E-10	6.93E-19	1.81E-12	5.21E-22
mal(18).bmp	0.00249	4.7E-06	1.2E-09	1.2E-09	1.44E-18	2.6E-12	3.22E-21
mal(19).bmp	0.001609	1.86E-06	6.01E-11	6.9E-11	4.45E-21	9.41E-14	-5.2E-23
mal(2).bmp	0.001566	1.74E-06	8.86E-11	8.41E-11	7.26E-21	1.11E-13	2.64E-23
mal(20).bmp	0.002481	4.69E-06	1.4E-09	1.28E-09	1.71E-18	2.77E-12	-7.8E-21
mal(21).bmp	0.002496	4.78E-06	1.1E-09	1.08E-09	1.17E-18	2.35E-12	-1.4E-20
mal(22).bmp	0.002593	5.23E-06	5.57E-10	4.97E-10	2.61E-19	1.14E-12	-4.2E-22
mal(23).bmp	0.002541	4.99E-06	6.19E-10	5.37E-10	3.09E-19	1.2E-12	-2.9E-21
mal(24).bmp	0.002541	4.99E-06	6.19E-10	5.37E-10	3.09E-19	1.2E-12	-2.9E-21
mal(25).bmp	0.002544	4.98E-06	8.03E-10	7.77E-10	6.14E-19	1.73E-12	3.21E-21
mal(26).bmp	0.002463	4.62E-06	1.21E-09	1.2E-09	1.45E-18	2.59E-12	1.7E-22
mal(27).bmp	0.002548	4.96E-06	9.9E-10	1.02E-09	1.02E-18	2.27E-12	9.07E-22
mal(28).bmp	0.002479	4.7E-06	1.41E-09	1.31E-09	1.78E-18	2.83E-12	2.35E-20
mal(29).bmp	0.002367	4.22E-06	1.03E-09	1.01E-09	1.03E-18	2.07E-12	-5.2E-21
mal(3).bmp	0.002401	4.37E-06	6.32E-10	5.74E-10	3.46E-19	1.2E-12	-2.5E-21
mal(30).bmp	0.002304	3.97E-06	4.54E-10	5.14E-10	2.48E-19	1.02E-12	2.69E-21
mal(4).bmp	0.0024	4.37E-06	5.11E-10	5.17E-10	2.66E-19	1.08E-12	2.46E-21
mal(5).bmp	0.002395	4.35E-06	2.95E-10	3.53E-10	1.14E-19	7.3E-13	6.74E-23
mal(6).bmp	0.002436	4.51E-06	6.8E-10	6.41E-10	4.23E-19	1.36E-12	-2.6E-21
mal(7).bmp	0.001587	1.79E-06	2.18E-11	1.92E-11	3.94E-22	2.58E-14	9.51E-25
mal(8).bmp	0.002553	5.04E-06	3.74E-10	3.69E-10	1.37E-19	8.29E-13	-1.6E-23
mal(9).bmp	0.002528	4.92E-06	5.3E-10	5.34E-10	2.84E-19	1.18E-12	-7.4E-22
Rata-rata	**0.002403**	**4.47E-06**	**6.27E-10**	**6.14E-10**	**5.27E-19**	**1.34E-12**	**-8.9E-23**
Standard Deviasi	**0.000288**	**9.66E-07**	**4.01E-10**	**3.86E-10**	**5.34E-19**	**8.49E-13**	**5.65E-21**

Tabel Nilai Ekstraksi Fitur Kelas *Vivax*

Nama Citra/Kelas	Phi 1	Phi 2	Phi 3	Phi 4	Phi 5	Phi 6	Phi 7
viv(1).bmp	0.002337	4.15E-06	8.84E-12	1.4E-12	4.65E-24	2.56E-15	-1.6E-24
viv(10).bmp	0.002367	4.24E-06	6.54E-12	4.11E-12	2.13E-23	5.15E-15	-4.3E-25
viv(11).bmp	0.002353	4.24E-06	8.55E-12	1.11E-11	1.09E-22	2.29E-14	1.12E-24
viv(12).bmp	0.002501	4.83E-06	3.3E-11	1.88E-11	4.62E-22	3.18E-14	7.83E-23
viv(13).bmp	0.002403	4.42E-06	7.72E-12	5.35E-12	3.44E-23	8.68E-15	-1.2E-24
viv(14).bmp	0.002231	3.74E-06	3.72E-12	1.76E-12	4.47E-24	2.08E-15	-6.3E-25
viv(15).bmp	0.002026	3.08E-06	2.03E-10	1.85E-10	3.58E-20	3.14E-13	-1.1E-22
viv(16).bmp	0.002652	5.48E-06	2.07E-10	1.65E-10	3.05E-20	3.83E-13	1.31E-21
viv(17).bmp	0.001609	1.86E-06	1.91E-11	1.7E-11	3.07E-22	2.28E-14	-5.4E-24
viv(18).bmp	0.001584	1.79E-06	4.14E-11	1.5E-11	3.55E-22	1.79E-14	-1.1E-22
viv(19).bmp	0.001536	1.68E-06	1.73E-10	8.85E-11	1.07E-20	1.01E-13	-2.3E-21
viv(2).bmp	0.001798	2.32E-06	1.29E-10	9.64E-11	1.07E-20	1.4E-13	5.99E-22
viv(20).bmp	0.001613	1.86E-06	1.21E-10	1.03E-10	1.14E-20	1.39E-13	2.93E-22
viv(21).bmp	0.001641	1.94E-06	1.31E-11	1.38E-11	1.85E-22	1.92E-14	-4.6E-25
viv(22).bmp	0.001641	1.94E-06	2.38E-11	1.35E-11	2.42E-22	1.86E-14	-1.1E-23
viv(23).bmp	0.00163	1.91E-06	7.05E-12	1.12E-12	1.15E-24	-6E-16	2.91E-24
viv(24).bmp	0.001703	2.12E-06	6.2E-12	1.99E-11	2.17E-22	2.84E-14	-4.5E-23
viv(25).bmp	0.002084	3.25E-06	7.31E-11	8.23E-11	6.38E-21	1.47E-13	1.15E-22
viv(26).bmp	0.001596	1.82E-06	7.85E-13	4.74E-13	2.89E-25	4.32E-16	-5.1E-27
viv(27).bmp	0.001615	1.87E-06	2.12E-12	2.62E-13	-9E-26	-2.2E-16	1.74E-25
viv(28).bmp	0.001691	2.08E-06	8.92E-12	1.26E-12	1.21E-24	2.43E-16	4.04E-24
viv(29).bmp	0.001652	1.98E-06	1.89E-11	2.09E-11	4.07E-22	2.62E-14	7.91E-23
viv(3).bmp	0.002222	3.73E-06	9.3E-11	8.92E-11	8.12E-21	1.69E-13	5.44E-23
viv(30).bmp	0.001582	1.78E-06	3.82E-11	3.37E-11	1.21E-21	4.41E-14	2.2E-23
viv(4).bmp	0.002127	3.38E-06	7.83E-11	5.9E-11	4E-21	1.07E-13	-2.4E-22
viv(5).bmp	0.002105	3.3E-06	1.24E-10	1.38E-10	1.8E-20	2.5E-13	1.14E-22
viv(6).bmp	0.00225	3.81E-06	1.38E-11	6.23E-12	5.74E-23	1.21E-14	-4.7E-24
viv(7).bmp	0.002406	4.42E-06	9.85E-12	1.62E-11	2.03E-22	3.33E-14	2.17E-23
viv(8).bmp	0.002473	4.7E-06	7.26E-11	9.25E-11	7.57E-21	2E-13	2.63E-22
viv(9).bmp	0.002411	4.45E-06	1.96E-11	1.76E-11	3.27E-22	3.65E-14	1.86E-24
Rata-Rata	**0.001995**	**3.07E-06**	**5.22E-11**	**4.39E-11**	**4.91E-21**	**7.61E-14**	**3.33E-24**
Standard Deviasi	**0.000366**	**1.19E-06**	**6.19E-11**	**5.28E-11**	**9.01E-21**	**1.01E-13**	**5.17E-22**

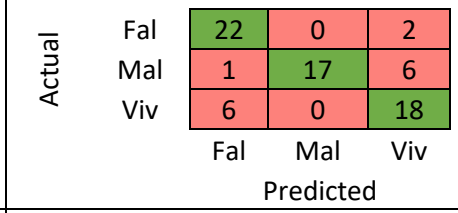
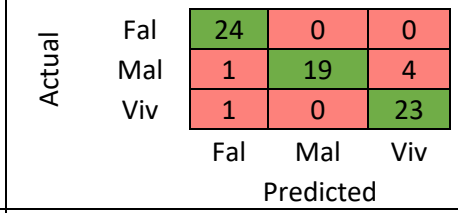
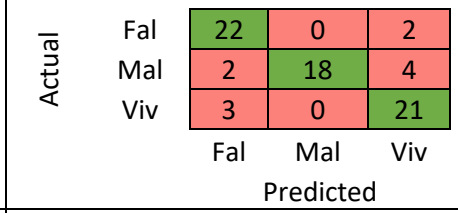
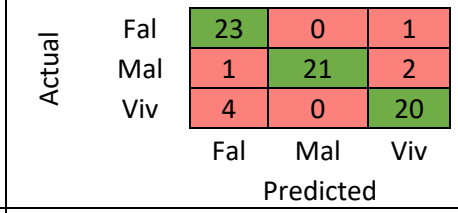
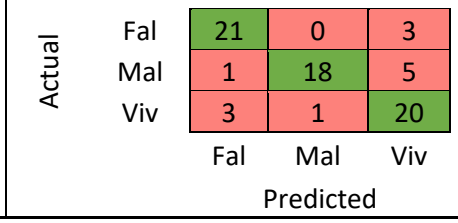
***Confusion Matrix* Data *Training Polynomial* SVM**

Confusion Matrix Polynomial SVM	
Data set-1	
Data set-2	
Data set-3	
Data set-4	
Data set-5	

Tabel Pengukuran *Training Polynomial* SVM

Dataset-n	Akurasi	Sensitivitas	Spesifisitas
Dataset 1	81.9	87.5	89.58
Dataset 2	88.9	91.67	95.83
Dataset 3	88.9	91.67	91.67
Dataset 4	81.9	83.33	87.5
Dataset 5	80.6	83.33	91.67
Rata-rata	**84.44**	**87.5**	**91.25**

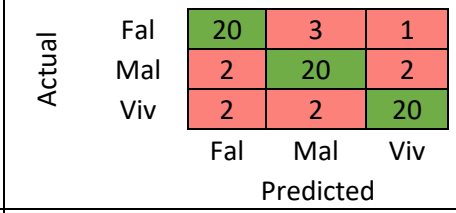
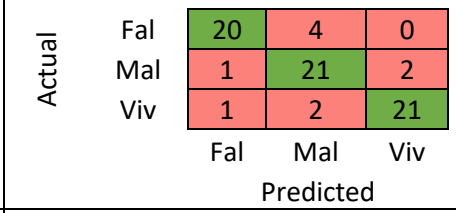
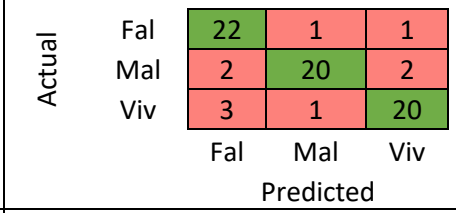
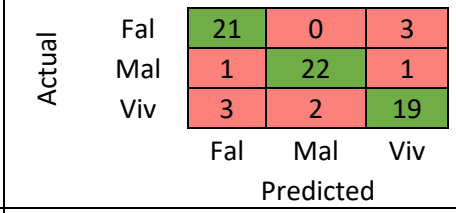
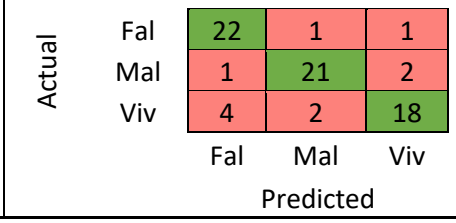
***Confusion Matrix* Data *Training* Linier SVM**

Confusion Matrix Linier SVM	
Data set-1	
Data set-2	
Data set-3	
Data set-4	
Data set-5	

Tabel Pengukuran Data *Training* Linier SVM

Dataset-n	Akurasi	Sensitivitas	Spesifisitas
Dataset 1	79.2	91.67	85.42
Dataset 2	91.7	100	95.83
Dataset 3	84.7	91.67	89.58
Dataset 4	88.9	95.83	89.58
Dataset 5	81.9	87.5	91.67
Rata-rata	**85.28**	**93.33**	**90.42**

***Confusion Matrix* Data *Training* Gaussian SVM**

Confusion Matrix Gaussian SVM	
Data set-1	
Data set-2	
Data set-3	
Data set-4	
Data set-5	

Tabel Pengukuran Data *Training Gaussian* SVM

Dataset-n	Akurasi	Sensitivitas	Spesifisitas
Dataset 1	83.3	83.33	91.67
Dataset 2	86.1	83.33	95.83
Dataset 3	86.1	91.67	89.58
Dataset 4	86.1	87.5	91.67
Dataset 5	84.7	91.67	89.58
Rata-rata	**85.26**	**87.50**	**91.67**

Data *testing Polynomial Support Vector Machine*

Data Aktual	Dataset 1	Dataset 2	Dataset 3	Dataset 4	Dataset 5
'FALCIPARUM'	'FALCIPARUM'	'FALCIPARUM'	'FALCIPARUM'	'FALCIPARUM'	'FALCIPARUM'
'FALCIPARUM'	'FALCIPARUM'	'FALCIPARUM'	'VIVAX'	'FALCIPARUM'	'FALCIPARUM'
'FALCIPARUM'	'FALCIPARUM'	'VIVAX'	'VIVAX'	'VIVAX'	'FALCIPARUM'
'FALCIPARUM'	'FALCIPARUM'	'FALCIPARUM'	'FALCIPARUM'	'VIVAX'	'FALCIPARUM'
'FALCIPARUM'	'FALCIPARUM'	'FALCIPARUM'	'FALCIPARUM'	'FALCIPARUM'	'FALCIPARUM'
'FALCIPARUM'	'FALCIPARUM'	'FALCIPARUM'	'FALCIPARUM'	'VIVAX'	'FALCIPARUM'
'MALARIAE'	'MALARIAE'	'VIVAX'	'VIVAX'	'VIVAX'	'MALARIAE'
'MALARIAE'	'MALARIAE'	'MALARIAE'	'MALARIAE'	'VIVAX'	'FALCIPARUM'
'MALARIAE'	'MALARIAE'	'MALARIAE'	'MALARIAE'	'VIVAX'	'MALARIAE'
'MALARIAE'	'MALARIAE'	'MALARIAE'	'MALARIAE'	'VIVAX'	'MALARIAE'
'MALARIAE'	'MALARIAE'	'MALARIAE'	'MALARIAE'	'MALARIAE'	'MALARIAE'
'MALARIAE'	'MALARIAE'	'MALARIAE'	'MALARIAE'	'MALARIAE'	'MALARIAE'
'VIVAX'	'VIVAX'	'FALCIPARUM'	'VIVAX'	'VIVAX'	'VIVAX'
'VIVAX'	'VIVAX'	'FALCIPARUM'	'VIVAX'	'VIVAX'	'VIVAX'
'VIVAX'	'VIVAX'	'VIVAX'	'FALCIPARUM'	'VIVAX'	'VIVAX'
'VIVAX'	'VIVAX'	'VIVAX'	'MALARIAE'	'VIVAX'	'VIVAX'
'VIVAX'	'VIVAX'	'VIVAX'	'VIVAX'	'VIVAX'	'VIVAX'
'VIVAX'	'VIVAX'	'VIVAX'	'VIVAX'	'VIVAX'	'VIVAX'

Nama Kelas	Nama Label Citra Dataset Pengujian				
'FALCIPARUM'	fal (25).bmp	fal (19).bmp	fal (13).bmp	fal (10).bmp	fal (1).bmp
'FALCIPARUM'	fal (26).bmp	fal (20).bmp	fal (14).bmp	fal (11).bmp	fal (2).bmp
'FALCIPARUM'	fal (27).bmp	fal (21).bmp	fal (15).bmp	fal (12).bmp	fal (3).bmp
'FALCIPARUM'	fal (28).bmp	fal (22).bmp	fal (16).bmp	fal (7).bmp	fal (4).bmp
'FALCIPARUM'	fal (29).bmp	fal (23).bmp	fal (17).bmp	fal (8).bmp	fal (5).bmp
'FALCIPARUM'	fal (30).bmp	fal (24).bmp	fal (18).bmp	fal (9).bmp	fal (6).bmp
'MALARIAE'	mal (25).bmp	mal (19).bmp	mal (13).bmp	mal (10).bmp	mal (1).bmp
'MALARIAE'	mal (26).bmp	mal (20).bmp	mal (14).bmp	mal (11).bmp	mal (2).bmp
'MALARIAE'	mal (27).bmp	mal (21).bmp	mal (15).bmp	mal (12).bmp	mal (3).bmp
'MALARIAE'	mal (28).bmp	mal (22).bmp	mal (16).bmp	mal (7).bmp	mal (4).bmp
'MALARIAE'	mal (29).bmp	mal (23).bmp	mal (17).bmp	mal (8).bmp	mal (5).bmp
'MALARIAE'	mal (30).bmp	mal (24).bmp	mal (18).bmp	mal (9).bmp	mal (6).bmp
'VIVAX'	viv (25).bmp	viv (19).bmp	viv (13).bmp	viv (10).bmp	viv (1).bmp
'VIVAX'	viv (26).bmp	viv (20).bmp	viv (14).bmp	viv (11).bmp	viv (2).bmp
'VIVAX'	viv (27).bmp	viv (21).bmp	viv (15).bmp	viv (12).bmp	viv (3).bmp
'VIVAX'	viv (28).bmp	viv (22).bmp	viv (16).bmp	viv (7).bmp	viv (4).bmp
'VIVAX'	viv (29).bmp	viv (23).bmp	viv (17).bmp	viv (8).bmp	viv (5).bmp
'VIVAX'	viv (30).bmp	viv (24).bmp	viv (18).bmp	viv (9).bmp	viv (6).bmp

Data *testing* Linier *Support Vector Machine*

Data Aktual	Dataset 1	Dataset 2	Dataset 3	Dataset 4	Dataset 5
'FALCIPARUM'	'FALCIPARUM'	'FALCIPARUM'	'FALCIPARUM'	'FALCIPARUM'	'FALCIPARUM'
'FALCIPARUM'	'FALCIPARUM'	'FALCIPARUM'	'FALCIPARUM'	'VIVAX'	'FALCIPARUM'
'FALCIPARUM'	'FALCIPARUM'	'VIVAX'	'FALCIPARUM'	'FALCIPARUM'	'FALCIPARUM'
'FALCIPARUM'	'FALCIPARUM'	'FALCIPARUM'	'FALCIPARUM'	'FALCIPARUM'	'VIVAX'
'FALCIPARUM'	'FALCIPARUM'	'FALCIPARUM'	'FALCIPARUM'	'FALCIPARUM'	'FALCIPARUM'
'FALCIPARUM'	'FALCIPARUM'	'FALCIPARUM'	'FALCIPARUM'	'FALCIPARUM'	'FALCIPARUM'
'MALARIAE'	'MALARIAE'	'VIVAX'	'VIVAX'	'VIVAX'	'MALARIAE'
'MALARIAE'	'MALARIAE'	'MALARIAE'	'MALARIAE'	'VIVAX'	'FALCIPARUM'
'MALARIAE'	'MALARIAE'	'MALARIAE'	'MALARIAE'	'VIVAX'	'MALARIAE'
'MALARIAE'	'MALARIAE'	'MALARIAE'	'MALARIAE'	'VIVAX'	'MALARIAE'
'MALARIAE'	'MALARIAE'	'MALARIAE'	'MALARIAE'	'MALARIAE'	'MALARIAE'
'MALARIAE'	'MALARIAE'	'MALARIAE'	'MALARIAE'	'MALARIAE'	'MALARIAE'
'VIVAX'	'VIVAX'	'FALCIPARUM'	'VIVAX'	'VIVAX'	'VIVAX'
'VIVAX'	'VIVAX'	'FALCIPARUM'	'VIVAX'	'VIVAX'	'FALCIPARUM'
'VIVAX'	'VIVAX'	'VIVAX'	'FALCIPARUM'	'VIVAX'	'VIVAX'
'VIVAX'	'VIVAX'	'VIVAX'	'VIVAX'	'VIVAX'	'VIVAX'
'VIVAX'	'VIVAX'	'VIVAX'	'VIVAX'	'VIVAX'	'VIVAX'
'VIVAX'	'VIVAX'	'VIVAX'	'VIVAX'	'VIVAX'	'VIVAX'

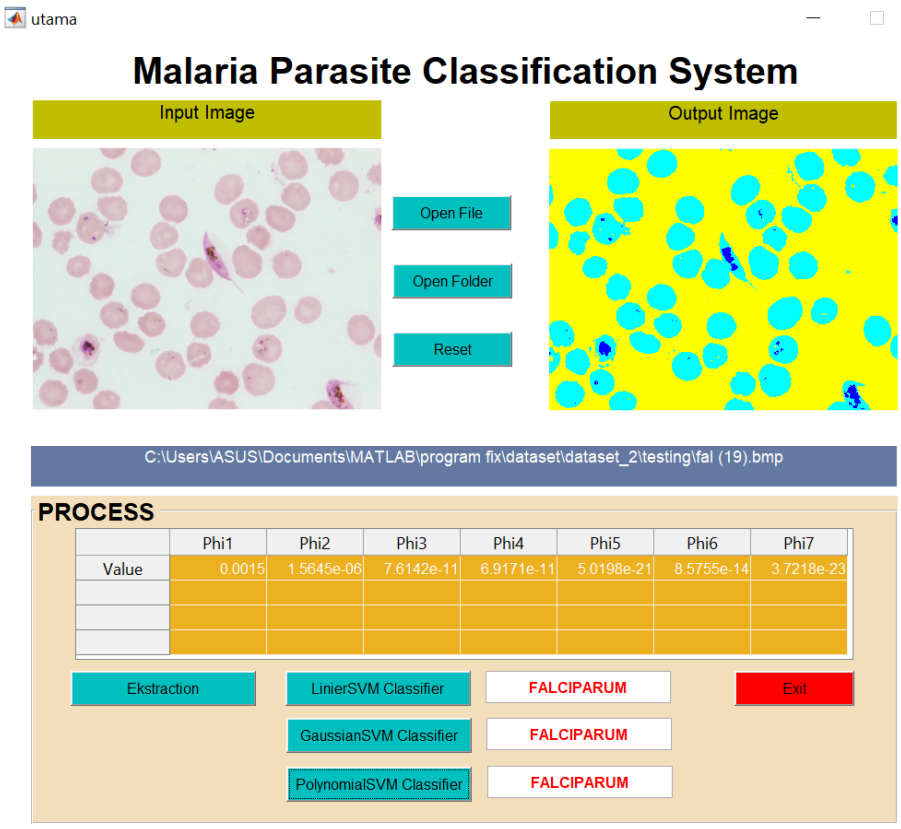
Nama Kelas	Nama Label Citra Dataset Pengujian				
'FALCIPARUM'	fal (25).bmp	fal (19).bmp	fal (13).bmp	fal (10).bmp	fal (1).bmp
'FALCIPARUM'	fal (26).bmp	fal (20).bmp	fal (14).bmp	fal (11).bmp	fal (2).bmp
'FALCIPARUM'	fal (27).bmp	fal (21).bmp	fal (15).bmp	fal (12).bmp	fal (3).bmp
'FALCIPARUM'	fal (28).bmp	fal (22).bmp	fal (16).bmp	fal (7).bmp	fal (4).bmp
'FALCIPARUM'	fal (29).bmp	fal (23).bmp	fal (17).bmp	fal (8).bmp	fal (5).bmp
'FALCIPARUM'	fal (30).bmp	fal (24).bmp	fal (18).bmp	fal (9).bmp	fal (6).bmp
'MALARIAE'	mal (25).bmp	mal (19).bmp	mal (13).bmp	mal (10).bmp	mal (1).bmp
'MALARIAE'	mal (26).bmp	mal (20).bmp	mal (14).bmp	mal (11).bmp	mal (2).bmp
'MALARIAE'	mal (27).bmp	mal (21).bmp	mal (15).bmp	mal (12).bmp	mal (3).bmp
'MALARIAE'	mal (28).bmp	mal (22).bmp	mal (16).bmp	mal (7).bmp	mal (4).bmp
'MALARIAE'	mal (29).bmp	mal (23).bmp	mal (17).bmp	mal (8).bmp	mal (5).bmp
'MALARIAE'	mal (30).bmp	mal (24).bmp	mal (18).bmp	mal (9).bmp	mal (6).bmp
'VIVAX'	viv (25).bmp	viv (19).bmp	viv (13).bmp	viv (10).bmp	viv (1).bmp
'VIVAX'	viv (26).bmp	viv (20).bmp	viv (14).bmp	viv (11).bmp	viv (2).bmp
'VIVAX'	viv (27).bmp	viv (21).bmp	viv (15).bmp	viv (12).bmp	viv (3).bmp
'VIVAX'	viv (28).bmp	viv (22).bmp	viv (16).bmp	viv (7).bmp	viv (4).bmp
'VIVAX'	viv (29).bmp	viv (23).bmp	viv (17).bmp	viv (8).bmp	viv (5).bmp
'VIVAX'	viv (30).bmp	viv (24).bmp	viv (18).bmp	viv (9).bmp	viv (6).bmp

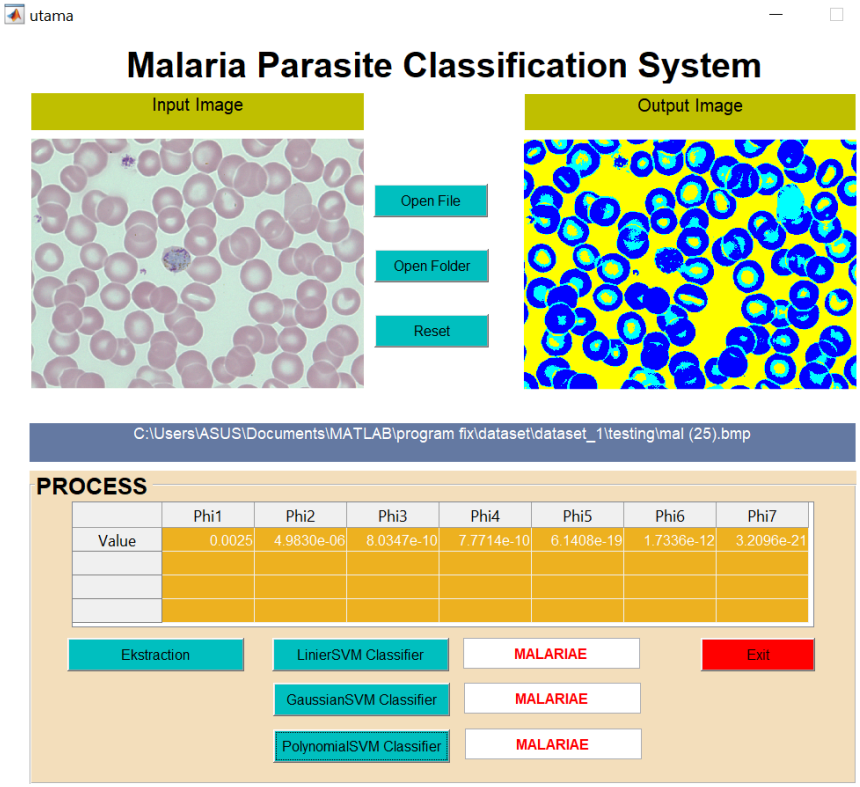
Data *testing Gaussian Support Vector Machine*

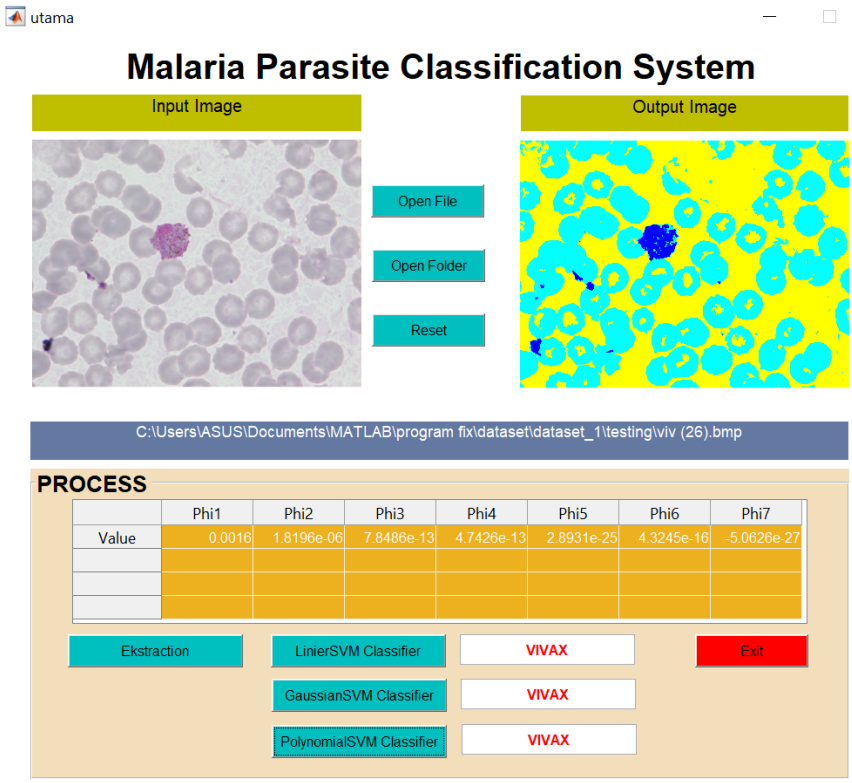
Data Aktual	Dataset 1	Dataset 2	Dataset 3	Dataset 4	Dataset 5
'FALCIPARUM'	'FALCIPARUM'	'FALCIPARUM'	'FALCIPARUM'	'FALCIPARUM'	'FALCIPARUM'
'FALCIPARUM'	'FALCIPARUM'	'FALCIPARUM'	'FALCIPARUM'	'FALCIPARUM'	'FALCIPARUM'
'FALCIPARUM'	'FALCIPARUM'	'VIVAX'	'FALCIPARUM'	'FALCIPARUM'	'FALCIPARUM'
'FALCIPARUM'	'FALCIPARUM'	'FALCIPARUM'	'FALCIPARUM'	'FALCIPARUM'	'FALCIPARUM'
'FALCIPARUM'	'FALCIPARUM'	'FALCIPARUM'	'FALCIPARUM'	'FALCIPARUM'	'FALCIPARUM'
'FALCIPARUM'	'FALCIPARUM'	'FALCIPARUM'	'FALCIPARUM'	'FALCIPARUM'	'FALCIPARUM'
'MALARIAE'	'MALARIAE'	'FALCIPARUM'	'MALARIAE'	'MALARIAE'	'MALARIAE'
'MALARIAE'	'MALARIAE'	'MALARIAE'	'MALARIAE'	'MALARIAE'	'FALCIPARUM'
'MALARIAE'	'MALARIAE'	'MALARIAE'	'MALARIAE'	'VIVAX'	'MALARIAE'
'MALARIAE'	'MALARIAE'	'MALARIAE'	'MALARIAE'	'VIVAX'	'MALARIAE'
'MALARIAE'	'MALARIAE'	'MALARIAE'	'MALARIAE'	'MALARIAE'	'MALARIAE'
'MALARIAE'	'MALARIAE'	'MALARIAE'	'MALARIAE'	'MALARIAE'	'MALARIAE'
'VIVAX'	'VIVAX'	'FALCIPARUM'	'VIVAX'	'VIVAX'	'VIVAX'
'VIVAX'	'VIVAX'	'FALCIPARUM'	'VIVAX'	'VIVAX'	'FALCIPARUM'
'VIVAX'	'VIVAX'	'VIVAX'	'FALCIPARUM'	'MALARIAE'	'VIVAX'
'VIVAX'	'VIVAX'	'VIVAX'	'MALARIAE'	'VIVAX'	'VIVAX'
'VIVAX'	'VIVAX'	'VIVAX'	'VIVAX'	'MALARIAE'	'VIVAX'
'VIVAX'	'VIVAX'	'VIVAX'	'VIVAX'	'VIVAX'	'VIVAX'

Nama Kelas	Nama Label Citra Dataset Pengujian				
'FALCIPARUM'	fal (25).bmp	fal (19).bmp	fal (13).bmp	fal (10).bmp	fal (1).bmp
'FALCIPARUM'	fal (26).bmp	fal (20).bmp	fal (14).bmp	fal (11).bmp	fal (2).bmp
'FALCIPARUM'	fal (27).bmp	fal (21).bmp	fal (15).bmp	fal (12).bmp	fal (3).bmp
'FALCIPARUM'	fal (28).bmp	fal (22).bmp	fal (16).bmp	fal (7).bmp	fal (4).bmp
'FALCIPARUM'	fal (29).bmp	fal (23).bmp	fal (17).bmp	fal (8).bmp	fal (5).bmp
'FALCIPARUM'	fal (30).bmp	fal (24).bmp	fal (18).bmp	fal (9).bmp	fal (6).bmp
'MALARIAE'	mal (25).bmp	mal (19).bmp	mal (13).bmp	mal (10).bmp	mal (1).bmp
'MALARIAE'	mal (26).bmp	mal (20).bmp	mal (14).bmp	mal (11).bmp	mal (2).bmp
'MALARIAE'	mal (27).bmp	mal (21).bmp	mal (15).bmp	mal (12).bmp	mal (3).bmp
'MALARIAE'	mal (28).bmp	mal (22).bmp	mal (16).bmp	mal (7).bmp	mal (4).bmp
'MALARIAE'	mal (29).bmp	mal (23).bmp	mal (17).bmp	mal (8).bmp	mal (5).bmp
'MALARIAE'	mal (30).bmp	mal (24).bmp	mal (18).bmp	mal (9).bmp	mal (6).bmp
'VIVAX'	viv (25).bmp	viv (19).bmp	viv (13).bmp	viv (10).bmp	viv (1).bmp
'VIVAX'	viv (26).bmp	viv (20).bmp	viv (14).bmp	viv (11).bmp	viv (2).bmp
'VIVAX'	viv (27).bmp	viv (21).bmp	viv (15).bmp	viv (12).bmp	viv (3).bmp
'VIVAX'	viv (28).bmp	viv (22).bmp	viv (16).bmp	viv (7).bmp	viv (4).bmp
'VIVAX'	viv (29).bmp	viv (23).bmp	viv (17).bmp	viv (8).bmp	viv (5).bmp
'VIVAX'	viv (30).bmp	viv (24).bmp	viv (18).bmp	viv (9).bmp	viv (6).bmp

Tampilan GUI untuk klasifikasi PF, PM dan PV






utama
Malaria Parasite Classification System
Input Image
Output Image
Open File
Open Folder
Reset
C:\Users\ASUS\Documents\MATLAB\program fix\dataset\dataset_1\testing\viv (26).bmp
PROCESS
Phi1 Phi2 Phi3 Phi4 Phi5 Phi6 Phi7
Value 0.0016 1.8196e-06 7.8486e-13 4.7426e-13 2.8931e-25 4.3245e-16 -5.0626e-27
Ekstraction
LinierSVM Classifier
VIVAX
Exit
GaussianSVM Classifier
VIVAX
PolynomialSVM Classifier
VIVAX

Script Program Sistem Klasifikasi Penyakit Malaria dengan Metode Hu Moment dan Support Vector Machine

A. Script Program Utama

```
%% --------------- pilih citra testing--------------------%%
function pushbutton1_Callback(hObject, eventdata, handles)
[fname, path]=uigetfile('.bmp','pilih citra testing');
fname=strcat(path, fname);
image=imread(fname);
axes(handles.axes1)
imshow(image);
handles.image = image;
guidata(hObject,handles);
set(handles.text3,'string',fname);

%% -------------- pilih folder training-------------------%%
function pushbutton2_Callback(hObject, eventdata, handles)
folder2 = uigetdir('C:\Users','open folder training');
set(handles.text3,'string',folder2);

%% --------------- Reset----------------------------------%%
function pushbutton3_Callback(hObject, eventdata, handles)
cla (handles.axes1,'reset');
cla (handles.axes2,'reset');
set(findobj('style','pushbutton'), 'Value', 0);
set(findobj('style','edit'), 'String', {''});
set(handles.text3,'string','');
set(handles.uitable1,'Data','');

%% --------------- ekstraksi fitur------------------------%%
function pushbutton4_Callback(hObject, eventdata, handles)
folder = get(handles.text3,'string');
images = dir([folder,'\*.bmp']);
nimages = length(images);
nimages
B=zeros(nimages,7);
    for i = 1:nimages
    currentimagename = images(i).name;
    imagenames(i,:) = {currentimagename};
    currentimage=imread(fullfile(folder,currentimagename),'bmp');
    axes(handles.axes1);
    imshow(currentimage);
    axes(handles.axes2);
    imshow(currentimage);
    phi = invmoments(currentimage)
    set(handles.uitable1,'Data',(phi));
    B(i,:)=phi;
    end
```

```
    sheet=1;
    filename='AlldataSeg.xlsx';
    xlswrite(filename,B,sheet,'A1:G90');
    xlswrite(filename,imagenames,sheet,'I1:I90');

%% ---------------- linierSVM classifier------------------%%
function pushbutton5_Callback(hObject, eventdata, handles)
image = handles.image;
axes(handles.axes2);
phi = invmoments(image)
set(handles.uitable1,'Data',(phi));
VarName1 = phi(1);
VarName2 = phi(2);
VarName3 = phi(3);
VarName4 = phi(4);
VarName5 = phi(5);
VarName6 = phi(6);
VarName7 = phi(7);
phi2 =
table(VarName1,VarName2,VarName3,VarName4,VarName5,VarName6,VarNam
e7);
%-----------load dataset----------
load ('dataSeg.mat');
trainingData = try2;
inputTable = trainingData;
predictorNames = {'VarName1', 'VarName2', 'VarName3', 'VarName4',
'VarName5', 'VarName6', 'VarName7'};
predictors = inputTable(:, predictorNames);
response = inputTable.FALCIPARUM;
%----------latih classifier--------
template = templateSVM(...
    'KernelFunction', 'linear', ...
    'PolynomialOrder', [], ...
    'KernelScale', 'auto', ...
    'BoxConstraint', 1, ...
    'Standardize', true);
classificationSVM = fitcecoc(...
    predictors, ...
    response, ...
    'Learners', template, ...
    'Coding', 'onevsone', ...
    'ClassNames', {'FALCIPARUM'; 'MALARIAE'; 'VIVAX'});
%----------predict---------------
predictedlabels = predict(classificationSVM, phi2);
set(handles.edit1,'string',predictedlabels);
f = msgbox(predictedlabels,'your classification');

%% -------------- gaussianSVM classifier--------------------%%
function pushbutton7_Callback(hObject, eventdata, handles)
```

```
image = handles.image;
axes(handles.axes2);
phi = invmoments(image)
set(handles.uitable1,'Data',(phi));
VarName1 = phi(1);
VarName2 = phi(2);
VarName3 = phi(3);
VarName4 = phi(4);
VarName5 = phi(5);
VarName6 = phi(6);
VarName7 = phi(7);
phi2 =
table(VarName1,VarName2,VarName3,VarName4,VarName5,VarName6,VarNam
e7);
% ---------load dataset--------
load ('dataSeg.mat');
trainingData = try2;
inputTable = trainingData;
predictorNames = {'VarName1', 'VarName2', 'VarName3', 'VarName4',
'VarName5', 'VarName6', 'VarName7'};
predictors = inputTable(:, predictorNames);
response = inputTable.FALCIPARUM;
% --------latih classifier-----
template = templateSVM('KernelFunction',...
    'gaussian',...
    'PolynomialOrder', [],...
    'KernelScale', 0.66,...
    'BoxConstraint', 1,...
    'Standardize', true);
classificationSVM = fitcecoc(predictors,...
    response,...
    'Learners', template,...
    'Coding', 'onevsone',...
    'ClassNames', {'FALCIPARUM'; 'MALARIAE'; 'VIVAX'});
% ---------predict-----------
predictedlabels = predict(classificationSVM, phi2);
set(handles.edit2,'string',predictedlabels);
f = msgbox(predictedlabels,'your classification');

%% ------------- polynomialSVM classifier---------------------%%
function pushbutton8_Callback(hObject, eventdata, handles)
image = handles.image;
axes(handles.axes2);
phi = invmoments(image)
set(handles.uitable1,'Data',(phi));
VarName1 = phi(1);
VarName2 = phi(2);
VarName3 = phi(3);
VarName4 = phi(4);
```

```
VarName5 = phi(5);
VarName6 = phi(6);
VarName7 = phi(7);
phi2 =
table(VarName1,VarName2,VarName3,VarName4,VarName5,VarName6,VarNam
e7);
%----------load data-------------
load ('dataSeg.mat');
trainingData = try2;
inputTable = trainingData;
predictorNames = {'VarName1', 'VarName2', 'VarName3', 'VarName4',
'VarName5', 'VarName6', 'VarName7'};
predictors = inputTable(:, predictorNames);
response = inputTable.FALCIPARUM;
%----------latih model------------
template = templateSVM(...
    'KernelFunction', 'polynomial', ...
    'PolynomialOrder', 2, ...
    'KernelScale', 'auto', ...
    'BoxConstraint', 1, ...
    'Standardize', true);
classificationSVM = fitcecoc(...
    predictors, ...
    response, ...
    'Learners', template, ...
    'Coding', 'onevsone', ...
    'ClassNames', {'FALCIPARUM'; 'MALARIAE'; 'VIVAX'});
%------------predict---------------
predictedlabels = predict(classificationSVM, phi2);
set(handles.edit3,'string',predictedlabels);
f = msgbox(predictedlabels,'your classification');
```

B. Script Program Pendukung (hu moment)

```
function phi = invmoments(image)
I = rgb2gray(image);
thresh = multithresh(I,2);
seg_I = imquantize(I,thresh);
image = label2rgb(seg_I);
imshow(image);
% image = rgb2hsv(image);
% imshow(image);
image = double(image);
phi= compute_phi(compute_eta(compute_m(image)));

%-------------------------------------------------------------------
--%
function m = compute_m(image)
```

```
[M, N] = size(image);
[x, y] = meshgrid(1:N, 1:M);

% Turn x, y, and F into column vectors to make the summations a
bit
% easier to compute in the following.
x = x(:);
y = y(:);
image = image(:);

% DIP equation (11.3-12)
m.m00 = sum(image);
% Protect against divide-by-zero warnings.
if (m.m00 == 0)
   m.m00 = eps;
end
% The other central moments:
m.m10 = sum(x .* image);
m.m01 = sum(y .* image);
m.m11 = sum(x .* y .* image);
m.m20 = sum(x.^2 .* image);
m.m02 = sum(y.^2 .* image);
m.m30 = sum(x.^3 .* image);
m.m03 = sum(y.^3 .* image);
m.m12 = sum(x .* y.^2 .* image);
m.m21 = sum(x.^2 .* y .* image);

%-------------------------------------------------------------------
--%
function e = compute_eta(m)

% DIP equations (11.3-14) through (11.3-16).

xbar = m.m10 / m.m00;
ybar = m.m01 / m.m00;

e.eta11 = (m.m11 - ybar*m.m10) / m.m00^2;
e.eta20 = (m.m20 - xbar*m.m10) / m.m00^2;
e.eta02 = (m.m02 - ybar*m.m01) / m.m00^2;
e.eta30 = (m.m30 - 3 * xbar * m.m20 + 2 * xbar^2 * m.m10) /
m.m00^2.5;
e.eta03 = (m.m03 - 3 * ybar * m.m02 + 2 * ybar^2 * m.m01) /
m.m00^2.5;
e.eta21 = (m.m21 - 2 * xbar * m.m11 - ybar * m.m20 + ...
           2 * xbar^2 * m.m01) / m.m00^2.5;
e.eta12 = (m.m12 - 2 * ybar * m.m11 - xbar * m.m02 + ...
           2 * ybar^2 * m.m10) / m.m00^2.5;
```