

Fig 1:

- A- Absorption spectrum of mosquito, wax, protein, and chitin
- B- Box and whisker plot with the changes in the intensity of the different wavenumbers of the spectra with species
- C- Box and whisker plot with the changes in the intensity of the different wavenumbers of the spectra with age

Fig 2:

- A- Confusion matrix for the prediction of species of all the mosquitoes.
- B- Distribution of accuracies for the prediction of species
- C- Confusion matrix for the prediction of species of only sugar-fed mosquitoes
- D- Confusion matrix for the prediction of species of only blood-fed mosquitoes
- E- Confusion matrix for the prediction of species of only gravid-fed mosquitoes

Fig 3:

- A- Confusion matrix for age prediction of *A. gambiae*.
- B- Distribution of accuracies for age prediction of *A. gambiae*
- C- Confusion matrix for the prediction of age of only sugar-fed *A. gambiae* mosquitoes
- D- Confusion matrix for the prediction of age of only blood-fed *A. gambiae* mosquitoes
- E- Confusion matrix for the prediction of age of only gravid-fed *A. gambiae* mosquitoes
- F- Confusion matrix for age prediction of *A. arabiensis*.
- G- Distribution of accuracies for age prediction of *A. arabiensis*
- H- Confusion matrix for the prediction of age of only sugar-fed *A. arabiensis* mosquitoes
- I- Confusion matrix for the prediction of age of only blood-fed *A. arabiensis* mosquitoes
- J- Confusion matrix for the prediction of age of only gravid-fed *A. arabiensis* mosquitoes

Fig 4:

- A- Estimation of survival function for *A. gambiae*
- B- Estimation of survival function for *A. arabiensis*

Table S1:

Assignation of all the bands of the Infrared spectrum