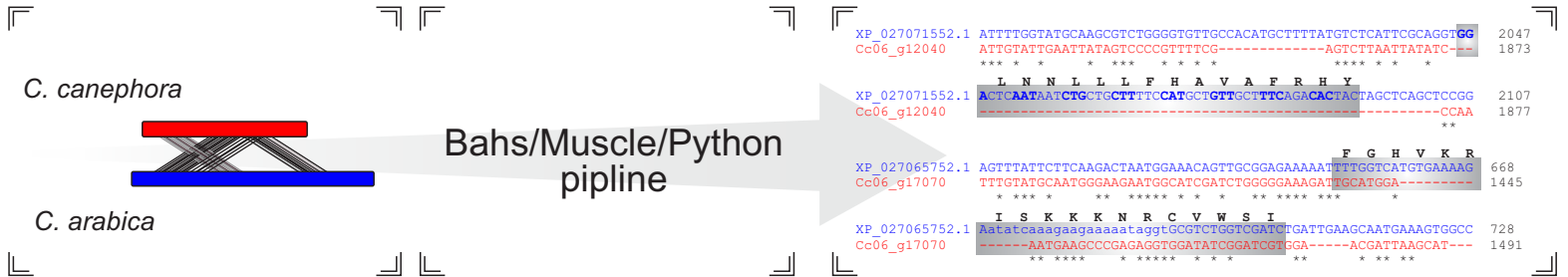# 1. InDel Identification: Strategy for application of comparative genomics in the selection of InDel-targeted primers in Single Copy Orthologs
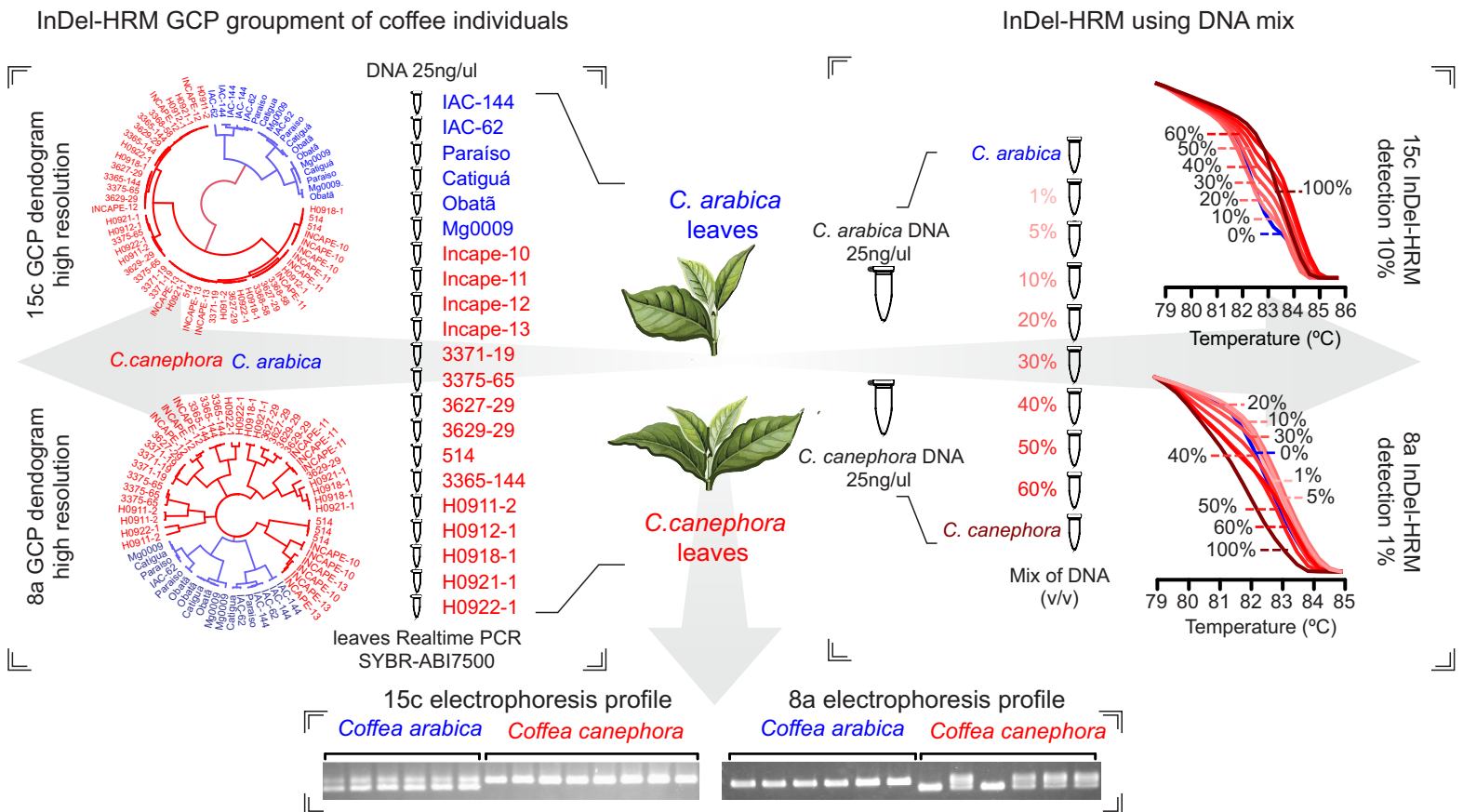
Single-Copy Orthologs identification

C. canephora

C. arabica

Scripts written *in-house*

Bahs/Muscle/Python pipline

High contrastant Single-Copy Orthologs

2. Discrimination of *C. arabica* from *C. canephora*: Two primer systems validating based on electrophoretic profile and HRM

InDel-HRM GCP groupment of coffee individuals

15c GCP dendogram high resolution

C.canephora *C. arabica*

8a GCP dendogram high resolution

DNA 25ng/ul

IAC-144
IAC-62
Paraíso
Catiguá
Obatã
Mg0009
Incape-10
Incape-11
Incape-12
Incape-13
3371-19
3375-65
3627-29
3629-29
514
3365-144
H0911-2
H0912-1
H0918-1
H0921-1
H0922-1

leaves Realtime PCR SYBR-ABI7500

C. arabica leaves

C.canephora leaves

InDel-HRM using DNA mix

C. arabica
1%
5%
10%
20%
30%
40%
50%
60%
C. canephora

C. arabica DNA 25ng/ul

C. canephora DNA 25ng/ul

Mix of DNA (v/v)

15c InDel-HRM detection 10%

8a InDel-HRM detection 1%

15c electrophoresis profile

Coffea arabica   *Coffea canephora*

8a electrophoresis profile

Coffea arabica   *Coffea canephora*

3. Authentication in beans admixture: application of selected primers to detect *C. canephora* beans mixed with *C. arabica* beans

Mix of ground green beans

Coffea arabica ground green beans

Coffea canephora ground green beans

DNA extraction and RealTime PCR

0.5%
1%
10%
20%
50%
C. canephora

Ground green beans mix

Extracted DNA

Real time PCR SYBR-ABI7500

InDel-HRM GCP groupment

8a InDel-HRM 0.5% of resolution