

()

RAPD

(*Juglans regia* L.)

*

(// : // :)

RAPD

RAPD

%

JAHAN1 NFE5 NFE3

CCGM1

RAPD

RAPD

(www.fao.org)

Juglans regia L.

(Juglandaceae)

(Potter et al., 2002)

(Mace et al., 1999)

(Sarkhosh et al., 2005)

RAPD

DNA

DNA

RAPD

RAPD

PCR

RAPD (Garcia et al., 2002)

()

RAPD

DNA

Murry & Thompson

RAPD

(1980)

OPERON

(Justus et al., 2004)

(1998) Nicese et al.

Taq DNA polymerase

(dNTPs)

() PCR

MgCl₂

RAPD

(Sarkhosh et al., 2005; Garcia et al.,

μl
dNTPs / mM MgCl₂ / mM X

RAPD

.2002)

ng Taq

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/ μM
(DNA)

(PCR)

°C

°C

(Woeste et al., 2002)

°C

°C

RAPD

(1998) Nicese et al.

°C

°C

°C

°C

°C

Bio-Rad

PCR

TBE

RAPD

(Dirlewanger et al., 1998)

/ $\mu\text{g/L}$

-
1. Introgression
 2. Tris Boric Acid EDTA

UV DNA

RAPD

(×)

NTSYS

(Ver 2.02)

UPGMA

(Woeste et al., 2002)

(Ver 2.1) NTSYS

(Atefi, 1993)

CCGM1 NFE9 BFE4 BFE1

(McGranahan et al., 1998)

CODK4
CCGM1
COKH5
CCEM1
CCHA2
COYK5
CCGM2
NFE1
NFE2
NFE3
NFE4
NFE5
NFE6
NFE7
NFE8
NFE9
NFE10
BFE1
BFE2
BFE3
BFE4
BFE5
BFE6
JAHAN1
JAHAN2
SERR
VINA
Z30
K72
FRANQUETE
LARA
JAHAD
ZIAABAD
DANESHKADEH
MIANEH

COKH5 BFE3

BFE4 COKH5

1. Jaccard's similarity coefficient

RAPD

NFE5 NFE1

()

NFE6

%

JAHAN1

(McGranahan et al., 1998)

/

/

JAHAN2

(%)

CCGM1

RAPD

DNA

DNA

()

/ /

OPK19

OPN19

() OPAA19

(%)

%

NFE7

NFE3 (/)

BFE6

(%) NFE8

NFE8 NFE7 (/)

(%) CODK4

(1998) Nicese at al.

RAPD

()

NFE3

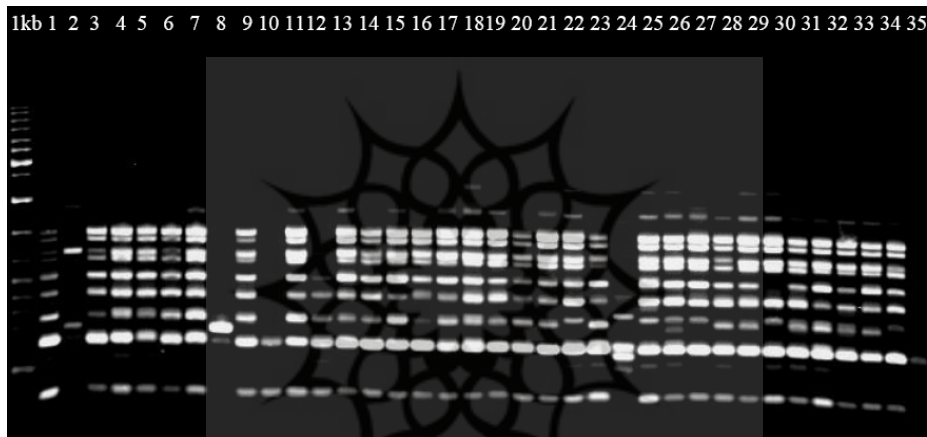
regia

(Charles et al., 1998; Ducci

.et al., 1997; Garcia et al., 2002)

RAPD

(b/a×100)	(b)	(a)	(5'-3')	
			CCTGGGTCAG	OPAC11
			AACGGGCGT	OPAD16
			CTGAAGCGCA	OPAE10
			AGGTGACCGT	OPA18
			TGAGGCGTGT	OPAA19
			GTGTGCCCA	OPD15
			TGCTGCAGGT	OPF14
/			ACGGTACCAG	OPF12
			CCGCCAAAC	OPK04
			CACAGGCGGA	OPK19
			GAAGAACCGC	OPMG16
			AGCGCCGACG	OPMG01
			CCGACAAACC	OPZ10
			GTGCCGTTCA	OPZ6



OPA18

DNA

(1kb)

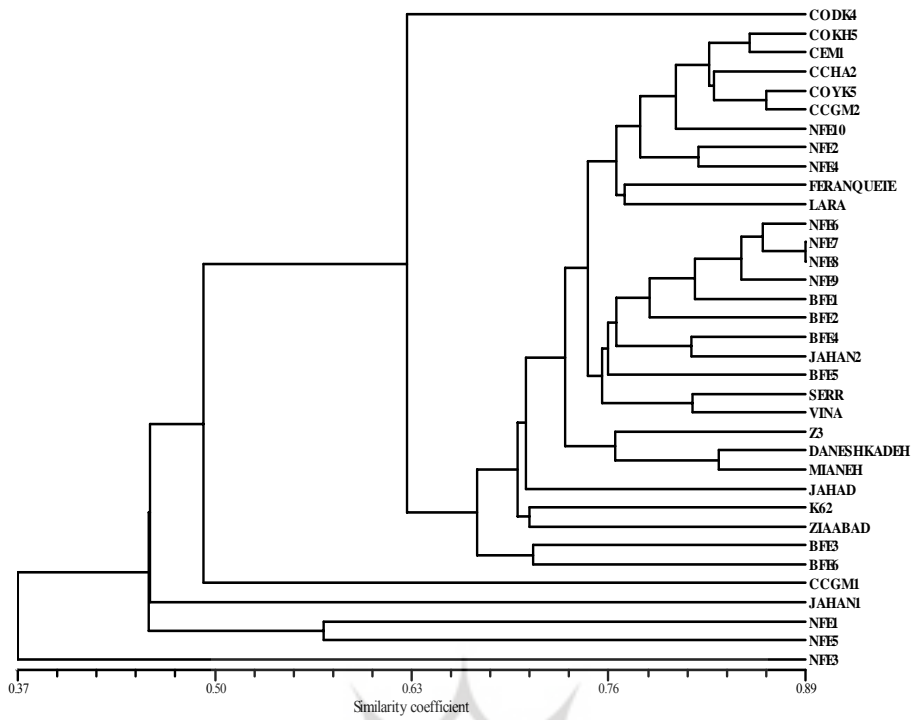
(

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رتال جامع علوم انسانی

(Nicese et al.,

.1998)

(%)



RAPD

(

UPGMA

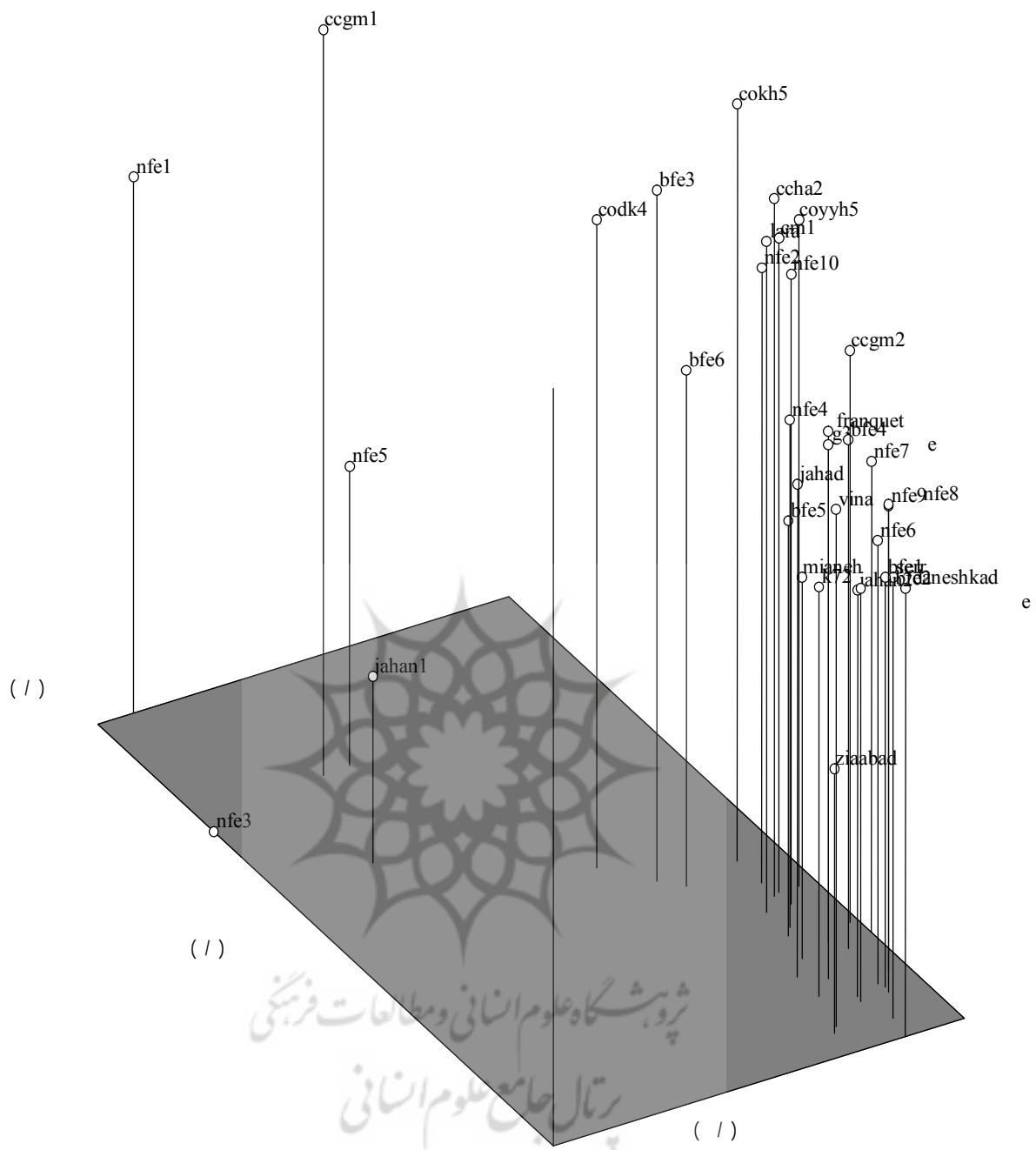
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 پرتال جامع علوم انسانی

(Ver. 2.1) NTSYS

/				
/	/			
/	/	/		
/	/	/	/	
/	/	/	/	/

(Allipanah et al., 2005)



RAPD

() .

Nicese et al. (2003) Orel et al.

(1998)

RAPD

RAPD

SSR

/ NFE3
NFE5 NFE1

JAHANI

CCGM1

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