Different Groups

A)
Mwd1 < Mwd2
Mwd1= 0.55-1 Msun
Mwd2 = 0.8-1.4 Msun
a(final) = 0.01-1Rsun

a(initial) = ~100Rsun
M1,i = 2.2-7.5 Msun
M2,i = 2-6 Msun
qi = 1-2.5

First mass transfer stable (M1-> M2): Forms He-star (->again stable mass transfer: forms WD)
M2-> M1: unstable (AGB to WD): common envelope => 2 WDs in a close orbit

=> similar to group 4 (Silvia)

B) Mwd1 & Mwd2 = 1.1-1.4 Msun
==> 2 different populations

1) a(final) = 10 000 Rsun
   M1 ~ 6-7.5 Msun
   M2 ~ 6-7.5 Msun
   Per,i ~ 10 000 days

2) a(final) = 0.01-0.1 Rsun
   M1 ~ 6.5-10 Msun
   M2 ~ 2.5-6 Msun
   Per,i = 3-100 days

1) Similar to group 1 of Silvia (systems which never come into contact)
2) First mass transfer phase stable stable (He star formed -> evolves into CO WD).
RLOF from secondary unstable (GB to WD): He star formed -> second common envelope phase: a WD is formed (in a close orbit -> merge later)

C)
Mwd1 > Mwd2
Mwd1= 0.5-1.4 Msun
Mwd2 = 0.5-1.4 Msun
a(final) =

-> Different evolutionary channels in this regime
=> Many systems equal to group 1 (Silvia -> systems which never come into contact) and also group 4 (Silvia)

D)
Mwd1 < Mwd2
Mwd1= 0.55-1 Msun
Mwd2 = 0.8-1.4 Msun
a(final) =

-> ~ systems of group A
=> similar to group 4 (Silvia)

E)
Mwd1= 0.2-0.4 Msun
Mwd2 = ~ 0.6 Msun
a(final) = ~0.6-1Rsun

a(initial) = 5-15Rsun
M1,i = 1.4-2 Msun
M2,i = 0.8-1.7 Msun

Start mass transfer when primary on HG (stable) ends on GB -> He WD
Mass transfer secondary on E-AGB-> CE -> He Star -> CO WD (in close orbit -> merge later)
=> similar to group 2a (Silvia)

F)
Mwd1= 0.2-0.3 Msun
Mwd2 = 0.2-0.4 Msun
a(final) = 0.12 (-0.16)Rsun

a(initial) = 4-12Rsun / Per(initial) = 0.8-2.8 days (clear dependence on initial period)
M1,i = 1-2.2 Msun
M2,i = 0.4-1.3 Msun

Start mass transfer on HG (stable) end on GB -> He WD formed
Mass transfer secondary on GB -> CE -> He WD (in a close orbit -> merge later)
=> similar to group 2b (Silvia)

G)
Mwd1 = 0.4-0.8 Msun
Mwd2 = 0.2-0.4 Msun
==> 2 different populations
1) a(final) = 0.04-0.16 Rsun 2) a(final) = 0.2-2 Rsun

M1 ~ 1.6-3.2 Msun	M1 ~ 1-3.5 Msun
M2 ~ 0.7-2.2 Msun	M2 ~ 1-2 Msun
a(initial) ~ 10 days	a(initial) = ~ 250-1000 days

1) First mass transfer starts on MS -> end on GB -> becomes He WD
secondary fills Roche lob on GB -> CE -> He star -> RLOF (stable) to He WD (becomes more massive, because conservative mass transfer)-> secondary He WD (2 WDs in a close orbit, merge later)

2) Mass transfer starts on AGB -> CE ->CO WD
Secondary fills Roche lobe on GB -> CE –> He WD (in a closer orbit, merge later)
=> similar to group 5+6 (Silvia)

H)
Mwd1 = 1.1-1.4 Msun
Mwd2 < 0.4 Msun
==> 2 different populations (small difference)

1)a(final) = 10-18 Rsun	2) a(final) = 18-24 Rsun
M1 ~ 1-2 Msun	M1 ~ 2-3 Msun
M2 ~ 0.95-1.3 Msun	M2 ~ 0.95-1.3 Msun
Per,i ~ 30-100 days	Per,i = 30-100 days

1) Mass transfer starts on GB -> CE -> He WD
2) Mass transfer starts on AGB -> CE -> He Star-> CO WD

Secondary fills in both case Roche lobe stable -> transfers mass to companion WD (which increases in mass) -> Becomes very low mass He-WD

=> both similar to group 7+8a (Silvia)

What about the systems in group 3 and 8b Silvia?

Group 3: I had these systems not only for these masses of WDs, because it happens on the AGB (winds not strong enough on GB, to have this there), that mass transfer becomes stable, due to the large mass loss from the wind (These fall in group c)
-> Also do not fall in same place in final separation plots

Group 8b: In group G I have also a few doubles, but it is not so populated as in Silvia`s case.