

Model F1:

```
model{
for(i in 1:N){
  p[i,1] <- 1
  for (j in 1:nc[i]-1) {
    r[i,j] ~ dbin(q[i,j],n[i,j])
    q[i,j] <- 1-(p[i,C[i,j+1]]/p[i,C[i,j]])
    z.index[i,j]<- C[i,j+1]-1
    theta[i,j] <- mu[s[i]] + (d[t[i]] - d[t[1]])*(1-equals(t[i],b[i])) + z[z.index[i,j]]
    rhat[i,j] <- q[i,j] * n[i,j]
    dv[i,j] <- 2 * (r[i,j]*(log(r[i,j])-log(rhat[i,j])) + (n[i,j]-r[i,j])*(log(n[i,j]-r[i,j]) - log(n[i,j]-rhat[i,j])))
  }
  dev[i] <- sum(dv[i,1:nc[i]-1])
  for (j in 2:nc[i]) {
    p[i,C[i,j]] <- 1 - phi.adj[i,j]
    phi.adj[i,j] <- phi(theta[i,j-1])
  }
}
totresdev <- sum(dev[])
z[1] <- 0
for (j in 2:Cmax-1) {
  z.aux[j] ~ dunif(0,5)
  z[j] <- z[j-1] + z.aux[j]
}
d[1] <- 0
for (k in 2:nt) { d[k] ~ dnorm(0,.0001) }
for(i in 1:ns) { mu[i] ~ dnorm(0,.000001) }
for (i in 1:ns) { mu1[i] <- mu[i]*equals(t[1],1) }
A <- sum(mu1[])/ns
# calculate prob of achieving PASI50,75,90 on treat k
for (k in 1:nt) {
for (j in 1: Cmax-1) { T[j,k] <- 1 - phi(A + d[k] + z[j]) }
}
}
```

Model G2:

```
model{
for(i in 1:N){
  p[i,1] <- 1
  for (j in 1:nc[i]-1) {
    r[i,j] ~ dbin(q[i,j],n[i,j])
    q[i,j] <- 1-(p[i,C[i,j+1]]/p[i,C[i,j]])
    z.index[i,j]<- C[i,j+1]-1
    theta[i,j] <- mu[s[i]] + d[t[i]] + z[z.index[i,j]]
      + betaplac * (mu[s[i]] - Mean) * (1-equals(t[i],1))
    rhat[i,j] <- q[i,j] * n[i,j]
    dv[i,j] <- 2 * (r[i,j]*(log(r[i,j])-log(rhat[i,j])) + (n[i,j]-r[i,j])*(log(n[i,j]-r[i,j]) - log(n[i,j]-rhat[i,j])))
  }
  dev[i] <- sum(dv[i,1:nc[i]-1])
  for (j in 2:nc[i]) {
    p[i,C[i,j]] <- 1 - phi.adj[i,j]
    phi.adj[i,j] <- phi(theta[i,j-1])
  }
}
totresdev <- sum(dev[])
}
```

```

z[1] <- 0
for (j in 2:Cmax-1) {
  z.aux[j] ~ dunif(0,5)
  z[j] <- z[j-1] + z.aux[j]
}

d[1] <- 0
for (k in 2:nt){ d[k] ~ dnorm(0,0.01) }
for(i in 1:ns){ mu[i] ~ dnorm(0,0.01)}
betaplac ~ dnorm(0,0.01)
for (i in 1:ns) {mu1[i]<-mu[i]*equals(t[1],1)}
A<-sum(mu1[])/ns
# calculate prob of achieving PASI50,75,90 on treat k
for (k in 1:nt) {
for (j in 1: Cmax-1) { T[j,k] <- 1 - phi(A + d[k] + z[j]) }
}
}
d[1]=PLA, d[2]=SEC300, d[3]=SEC150, d[4]=CZP, d[5]=UST, d[6]=GOL, d[7]=ADA, d[8]=INF, d[9]=ETA,
d[10]=APR

```