

# **Relatório EDPs HCV**

para a reuniao do dia 06/03/21

**Dois testes com DE para 8 dias pacientes BXX**

CXX: 5param -> 8 param; 8 param -> 5 param

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# Observações

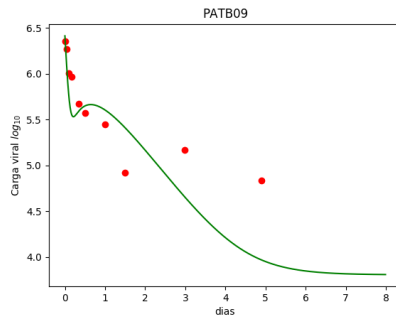
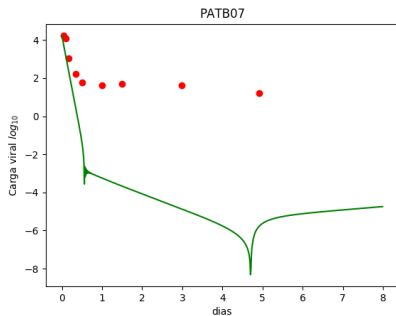
- 50 popsize 50 maxiter
- Primeiro foi feita uma aproximação para o valor de  $V_0$  com 5 parâmetros.
- Parametros e bounds:
  - $\alpha = 20,60$
  - $r = 0,1,10$
  - $\delta = (0,01,2)$
  - $\mu_c = (0,1,2)$
  - $\rho = (1,15)$
- Com os resultados dessa DE foi realizado uma nova DE para 8 dias, com 8 parametros
- Parametros e bounds:
  - $\epsilon_r = (0,1,0,99)$
  - $\epsilon_\alpha = (0,1,0,99)$
  - $\epsilon_s = (0,1,0,99)$
  - $\theta = (1,2)$
  - $\sigma = (1,2)$
  - $k_t = (1,2)$
  - $k_c = (1,2)$
  - $c = (10,25)$

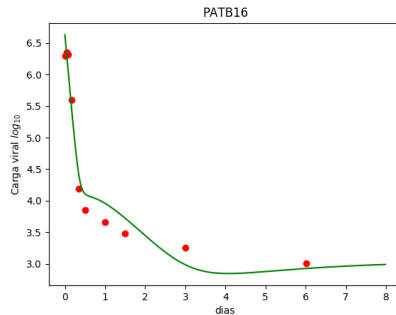
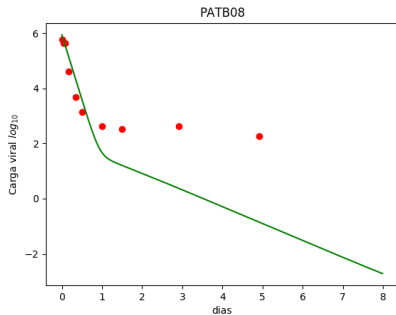
Table: Parametros da primeira DE

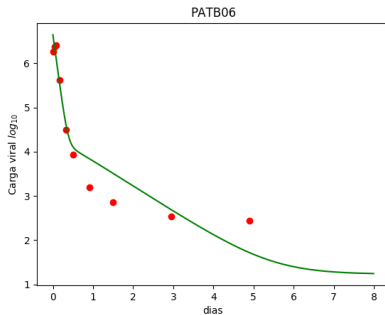
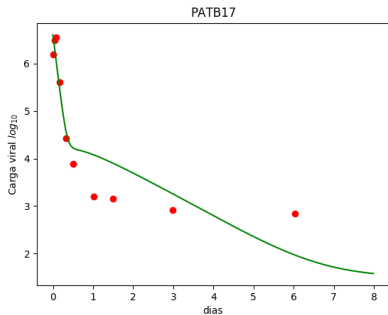
Paciente	$\alpha$	$r$	$\delta$	$\mu_c$	$\rho$	custo
<b>PATB07</b>	48.9	0.14	1.984	1.91	9.151	1.5e-5
<b>PATB09</b>	30.567	1.34	1.046	0.73	14.97	3.06e-5
<b>PATB08</b>	39.497	1.004	1.443	0.85	2.77	1.25e-5
<b>PATB16</b>	39.36	2.091	1.55	1.57	3.72	3.92e-5
<b>PATB17</b>	36.40	2.17	1.51	1.60	14.58	1.45e-4
<b>PATB06</b>	24.25	5.98	1.94	1.83	4.036	1.59e-6
<b>PATC05</b>	31.34	1.75	0.908	1.39	3.899	6.32e-5
<b>PATC06</b>	23.458	5.62	1.76	0.817	13.20	2.21e-5
<b>PATC09</b>	41.336	2.73	1.73	1.10	2.12	6.05e-5
<b>PATC10</b>	33.09	0.37	0.36	1.233	12.170	1.4e-5

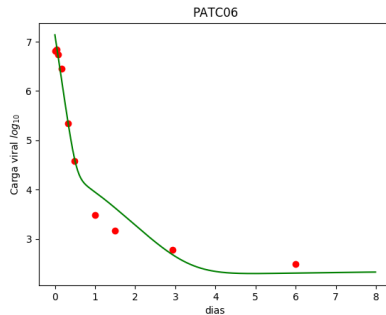
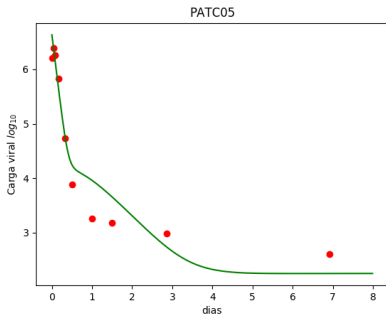
Table: Parametros da segunda DE

Pat	$\epsilon_r$	$\epsilon_\alpha$	$\epsilon$	$\theta$	$\sigma$	$k_t$	$k_c$	c	custo
<b>B07</b>	0.13	0.89	0.99	1.05	1.93	1.39	1.09	24.69	0.156
<b>B09</b>	0.82	0.104	0.98	1.98	1.013	1.39	1.05	10.01	0.076
<b>B08</b>	0.11	0.79	0.99	1.01	1.999	1.41	1.79	22.29	0.18
<b>B16</b>	0.60	0.51	0.989	1.00	1.99	1.47	1.003	15.03	0.074
<b>B17</b>	0.18	0.83	0.99	1.006	1.97	1.32	1.008	14.6	0.17
<b>B06</b>	0.11	0.58	0.99	1.001	1.999	1.27	1.75	14.32	0.13
<b>C05</b>	0.39	0.63	0.989	1.005	1.96	1.498	1.005	12.99	0.11
<b>C06</b>	0.49	0.77	0.99	1.004	1.67	1.92	1.02	11.93	0.08
<b>C09</b>	0.58	0.98	0.87	1.76	1.44	1.31	1.4	10.3	NaN
<b>C10</b>	0.80	0.75	0.97	1.003	1.17	1.39	1.00003	12.56	0.26

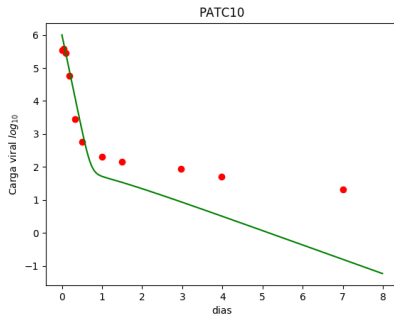
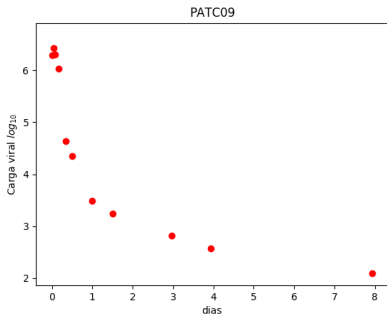












# Observações-2º teste

- 50 popsize 50 maxiter
- Primeiro foi feita uma aproximação para o valor de  $V_0$  com 8 parâmetros.
- Parametros e bounds:
  - $\alpha = 20,60$
  - $r = 0,1,10$
  - $\delta = (0,01,2)$
  - $\mu_c = (0,1,2)$
  - $\rho = (1,15)$
  - $\theta = (1,2)$
  - $\sigma = (1,2)$
  - $c = (10,25)$
- Com os resultados dessa DE foi realizado uma nova DE para 8 dias, com 5 parametros
- Parametros e bounds:
  - $\epsilon_r = (0,1,0,99)$
  - $\epsilon_\alpha = (0,1,0,99)$
  - $\epsilon_s = (0,1,0,99)$
  - $k_t = (1,2)$
  - $k_c = (1,2)$

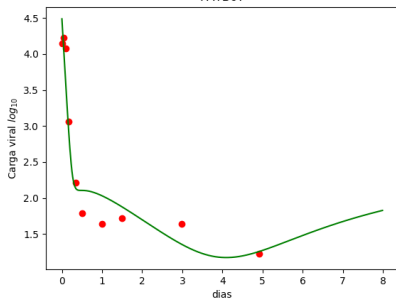
Table: Parametros da primeira DE

Pat	$\alpha$	$r$	$\delta$	$\mu_c$	$\rho$	$\theta$	$\sigma$	c	custo
<b>B07</b>	50.79	0.29	1.44	1.63	5.54	1.35	1.09	19.75	5e-4
<b>B09</b>	47.43	1.31	1.35	1.57	7.18	1.45	1.19	17.68	1.8e-5
<b>B08</b>	21.9	0.49	0.63	1.41	10.27	1.69	1.01	10.3	4.6e-5
<b>B16</b>	23.77	2.86	1.72	0.83	3.07	1.6	1.69	16.12	1e-5
<b>B17</b>	57.22	1.07	1.77	1.67	13.27	1.36	1.36	15.67	1e-4
<b>B06</b>	39.75	1.27	1.74	0.68	13.90	1.33	1.42	16.92	3e-5
<b>C05</b>	24.73	1.91	1.25	0.96	5.47	1.31	1.55	22.57	3.7e-5
<b>C06</b>	24.07	2.26	1.18	0.9	7.69	1.31	1.8	11.98	9.4e-6
<b>C09</b>	31.31	3.24	1.73	0.61	1.07	1.32	1.09	13.9	6e-6
<b>C10</b>	29.22	0.43	1.48	1.28	13.72	1.99	1.55	14.45	1e-4

Table: Parametros da segunda DE

Pat	$\epsilon_r$	$\epsilon_\alpha$	$\epsilon$	$k_t$	$k_c$	custo
<b>B07</b>	0.101	0.50	0.989	1.619	1.00256	0.089
<b>B09</b>	0.1012	0.10019	0.86299	1.794	1.00068	0.126
<b>B08</b>	0.7721	0.351	0.9493	1.975	1.0000798	0.43
<b>B16</b>	0.76302	0.1581	0.98998	1.674	1.00028	0.115
<b>B17</b>	0.1368	0.76906	0.99	1.288	1.000387	0.18
<b>B06</b>	0.14967	0.907	0.989998	1.82337	1.015466	0.17
<b>C05</b>	0.63786	0.59112	0.99	1.512404	1.02000231	0.22
<b>C06</b>	0.151131	0.88774	0.989981	1.834885	1.00345041	0.14
<b>C09</b>	0.64851	0.32033	0.11904	1.38158	1.720207	NaN
<b>C10</b>	0.16384	0.62968	0.93021	1.762558	1.00043	0.676

PATB07



PATB09

