

New MRPCs constructions and tests  
for 2017-2018 EEE Upgrade

Ecogas mixtures tests

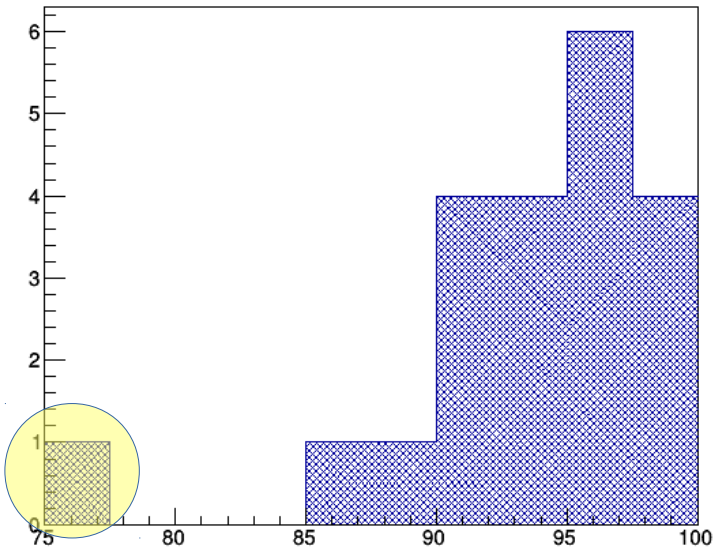
New MRPCs constructions and tests  
for 2017-2018 EEE Upgrade

# New MRPCs test status

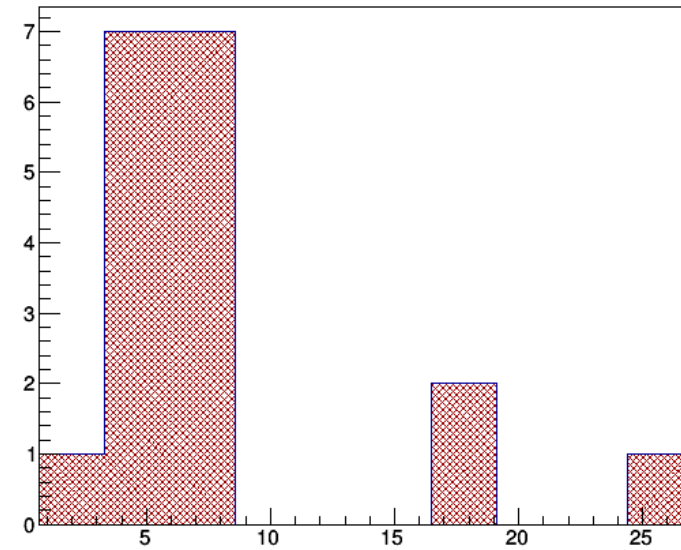
|             |                                  |                 |
|-------------|----------------------------------|-----------------|
| 20170222001 | leak problem < 1l/h              | LAMP-01         |
| 20170223002 | leak problem (7 l/h)             | LAMP-01         |
| 20170225003 | leak problem (2 l/h)             | LAMP-01         |
| 20170314004 | OK                               | GENO-01         |
| 20170316005 | OK                               | GENO-01         |
| 20170317006 | OK                               | GENO-01         |
| 20170405007 | OK                               | SIEN-02         |
| 20170406008 | OK                               | SIEN-02         |
| 20170407009 | OK                               | SIEN-02         |
| 20170425010 | OK                               | CARI-01         |
| 20170426011 | OK                               | CARI-01         |
| 20170427012 | OK                               | CARI-01         |
| 20170509013 | OK                               | TORI-05         |
| 20170510014 | OK                               | TORI-05         |
| 20170511015 | OK                               | TORI-05         |
| 20170523016 | OK                               | LODI-03         |
| 20170524017 | OK                               | LODI-03         |
| 20170524018 | eff 85%                          | LODI-03         |
| 20170719019 | OK                               | spare - ROMA-01 |
| 20170921020 | OK                               | spare – FRAS-01 |
| 20170926021 | OK                               | CAGL-04         |
| 20170927022 | eff problem – to be tested again | CAGL-04         |
| 20170928023 | eff problem – to be tested again | CAGL-04         |
| 20171026024 | OK                               | spare – COSE-01 |
| 2017xxxx025 | To be tested                     | BOLO-05         |
| 2017xxxx026 | To be tested                     | BOLO-05         |
| 2017xxxx027 | To be tested                     | BOLO-05         |
| 2018xxxx028 | To be tested                     | spare           |
| 2018xxxx029 | To be tested                     | spare           |
| 2018xxxx030 | To be tested                     | spare           |
| 2018xxxx031 | To be tested                     | spare           |

# New MRPCs tests parameters summary

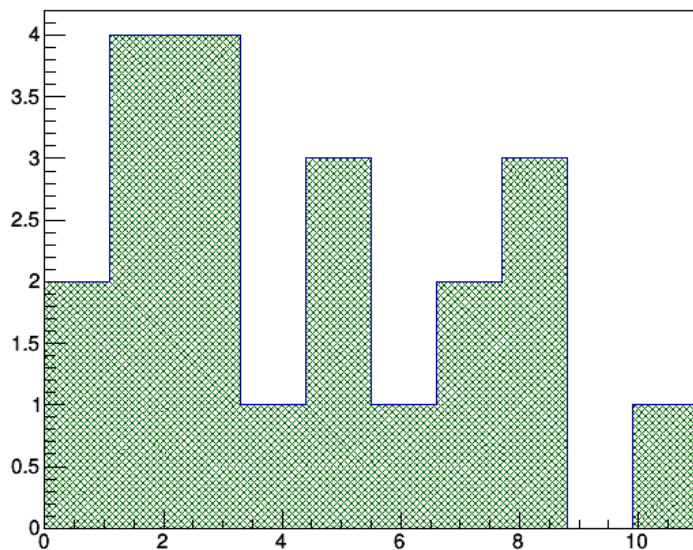
Efficiency summary (%)



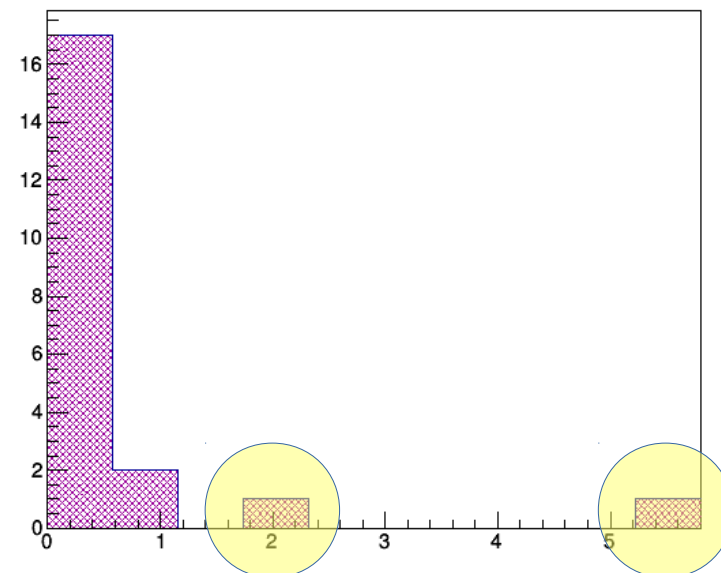
Dark Rate summary (Hz/cm<sup>2</sup>)



Dark current summary (nA/cm<sup>2</sup>)

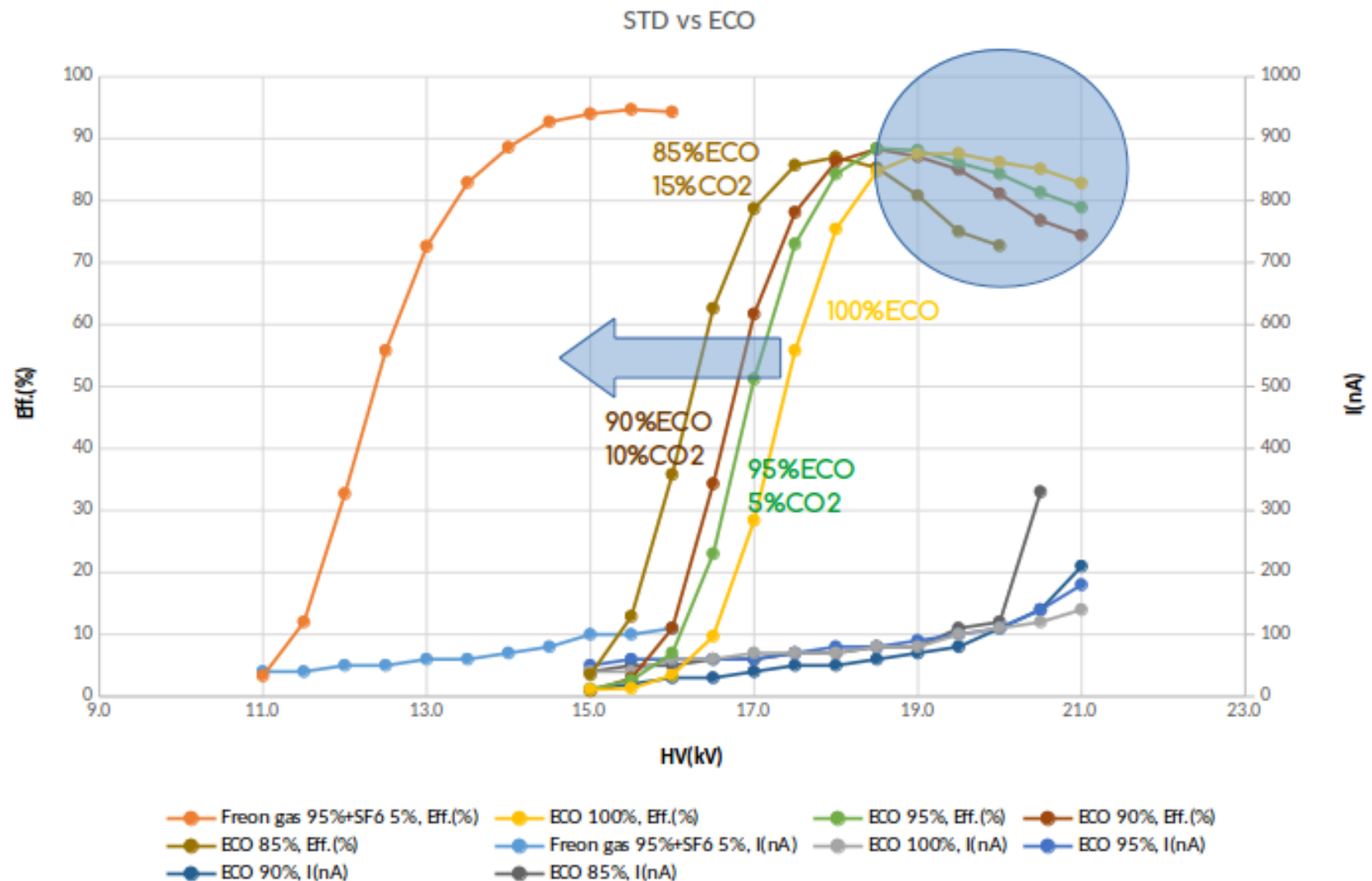


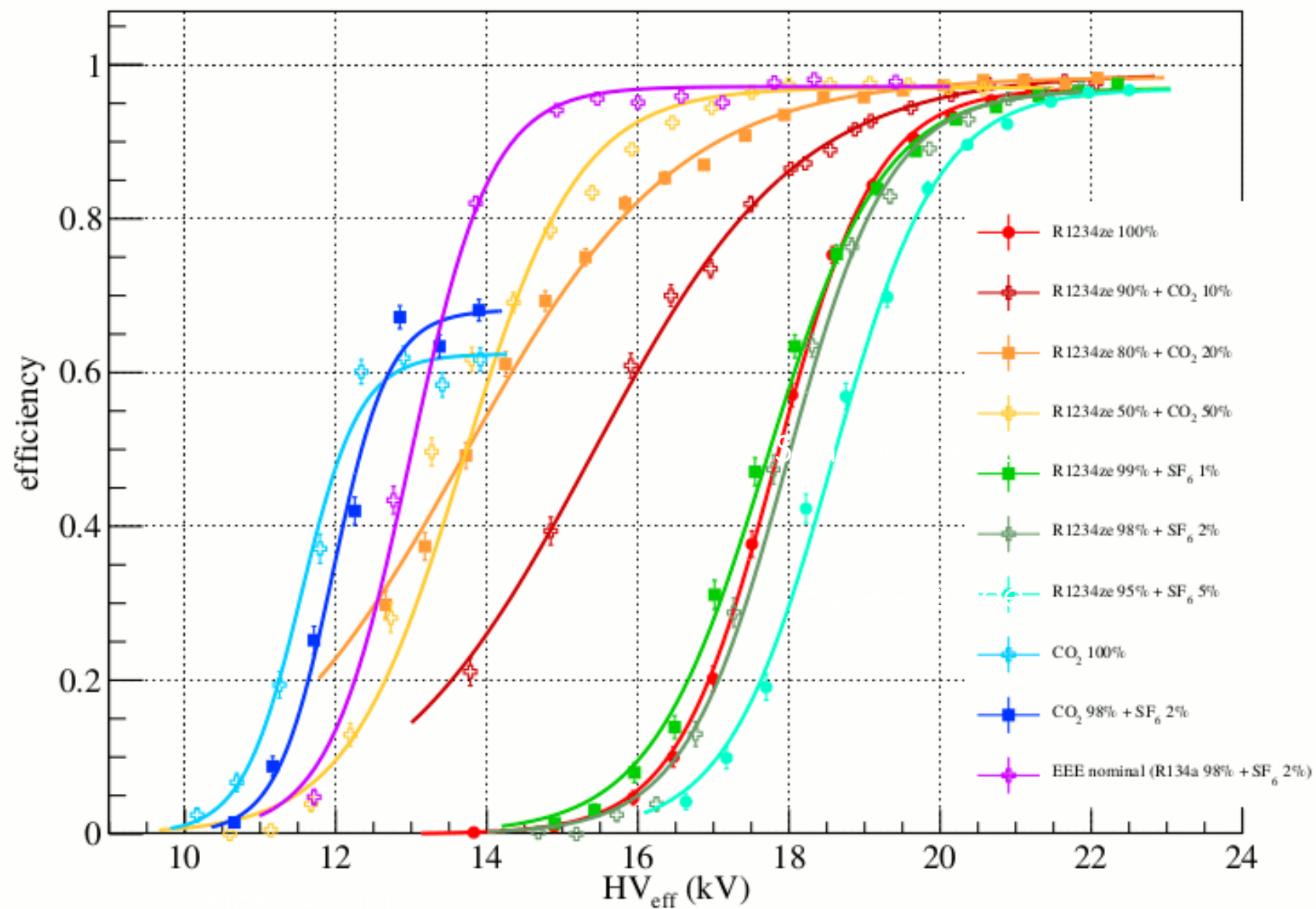
Gas tightness summary (l/h)



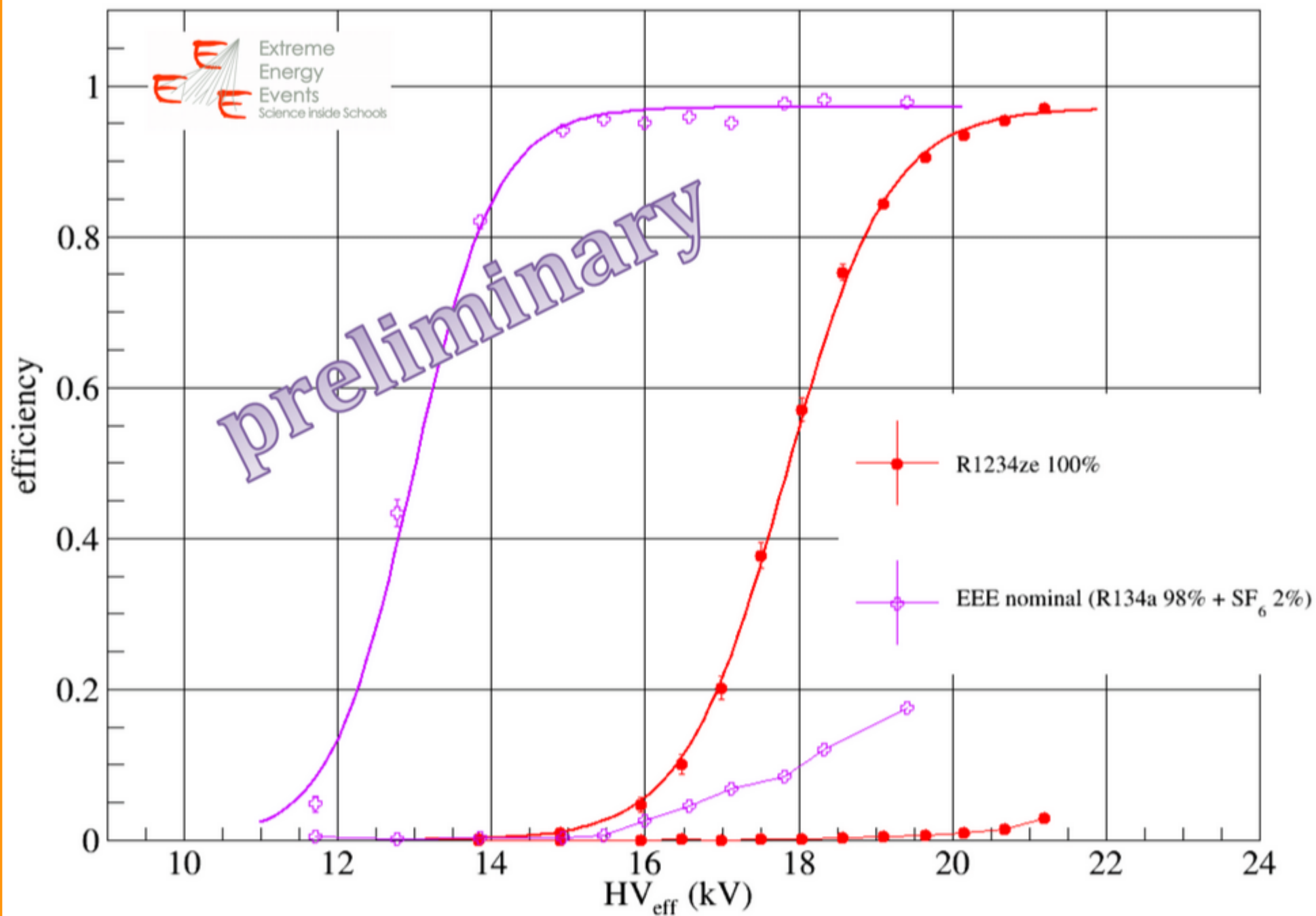
# Ecogas mixtures tests

# Nominal VS R1234ze (new freon) + CO2 mixture

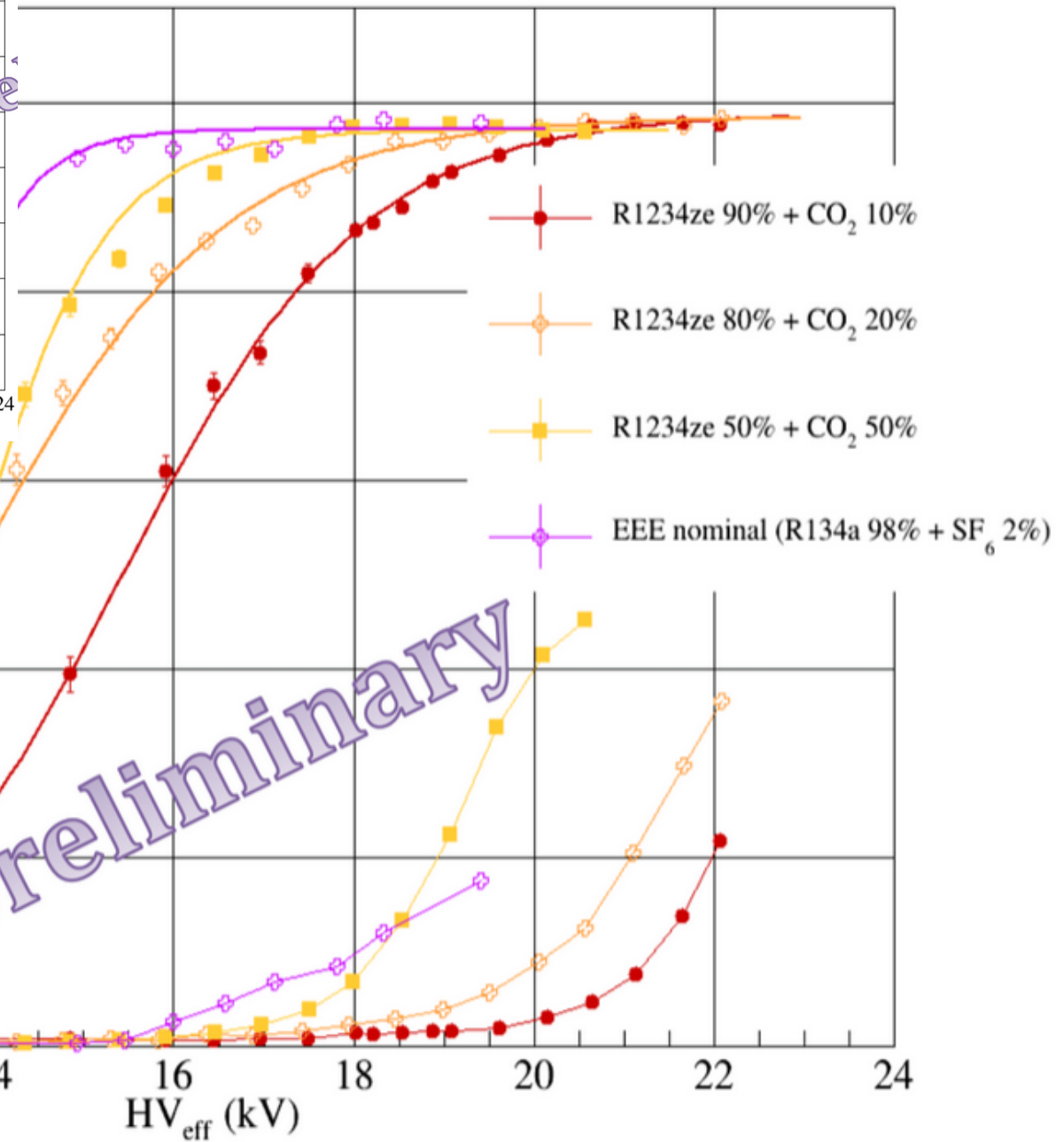
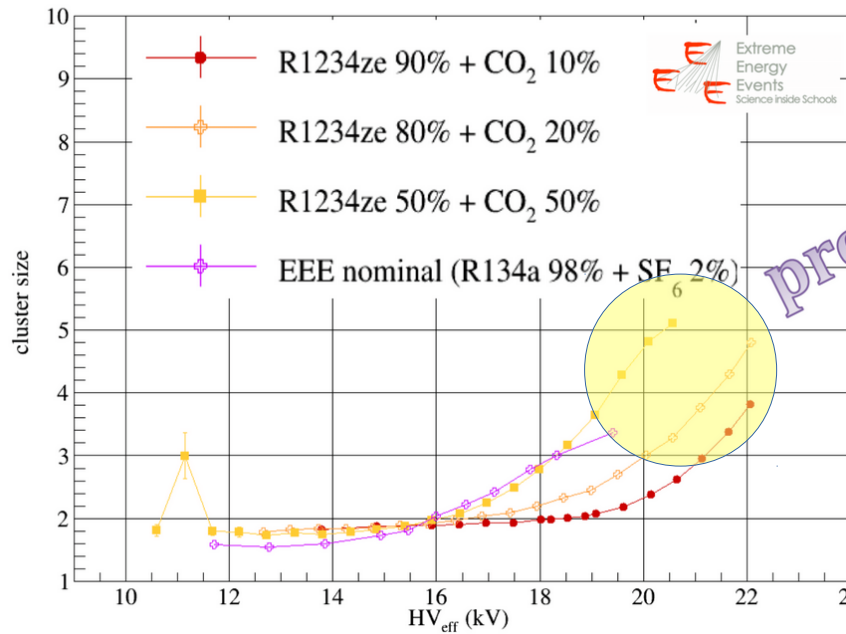




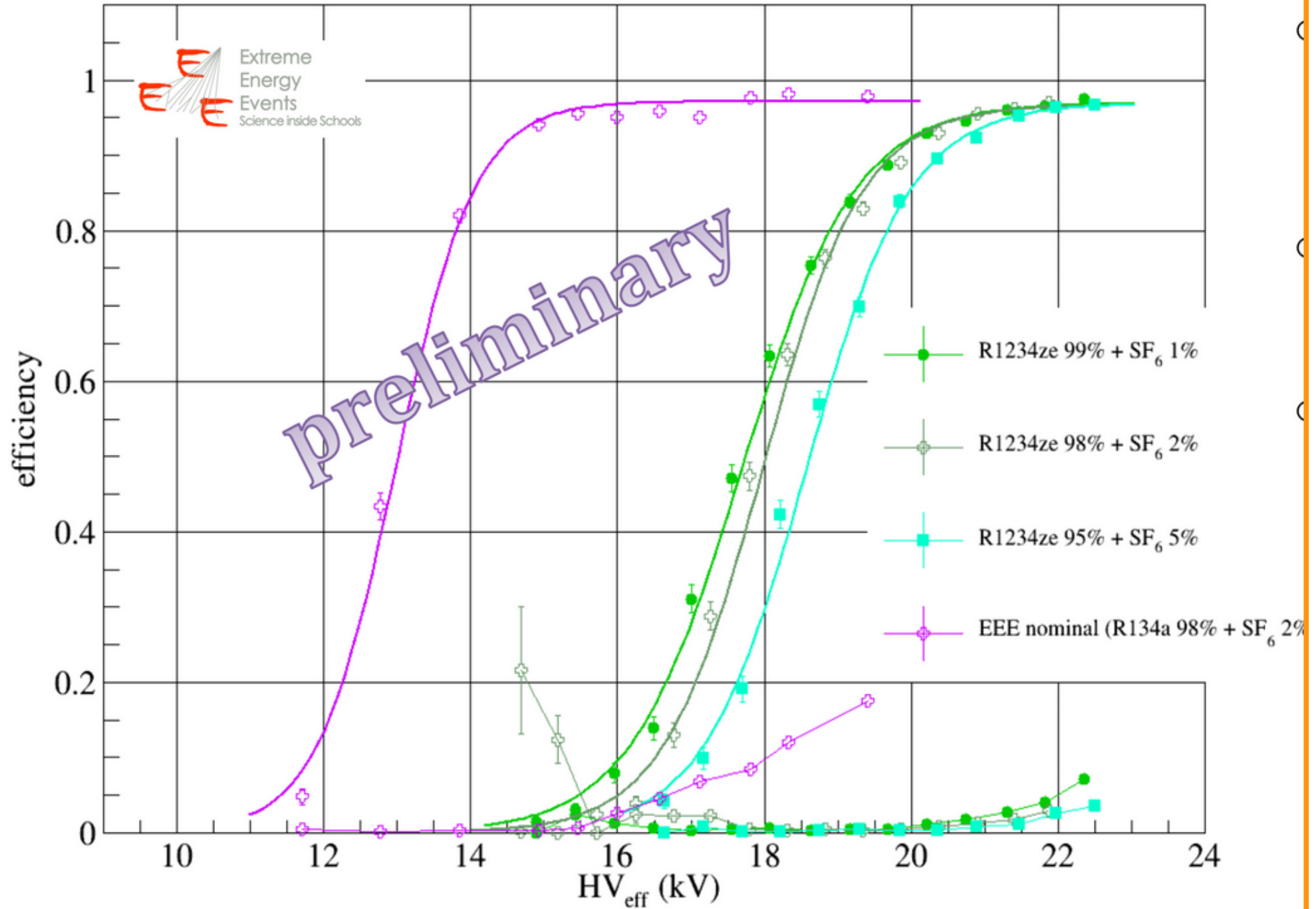
# Pure Eco



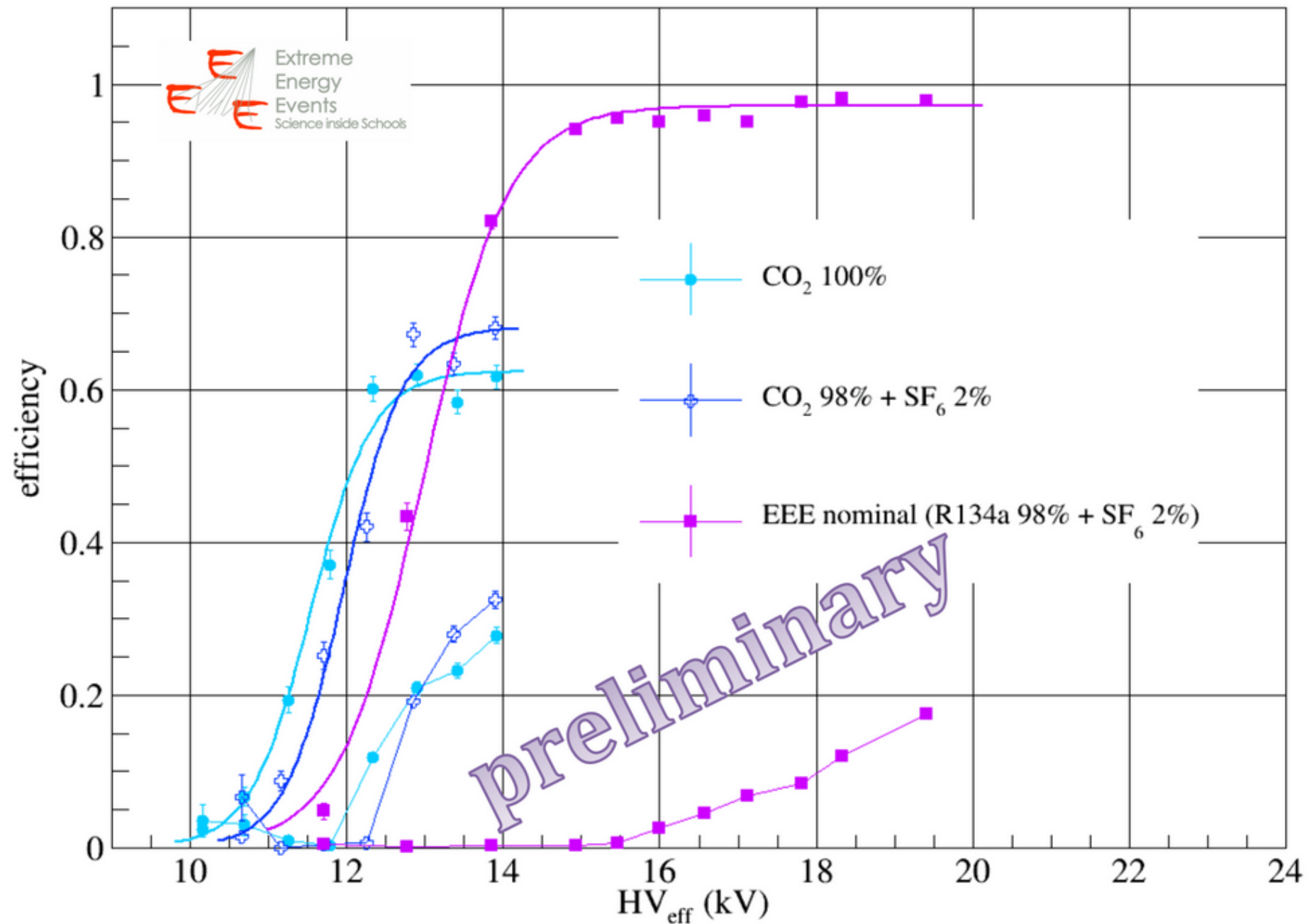
# Eco+CO2 (cluster size ~ 5)



# Eco+SF<sub>6</sub>



# CO<sub>2</sub>+SF<sub>6</sub> (no plateau)



|                                  |                           |
|----------------------------------|---------------------------|
| Pure Eco                         | good but high plateau HV  |
| Eco + SF <sub>6</sub>            | good but high plateau HV  |
| Eco+CO <sub>2</sub>              | good plateau HV but noisy |
| CO <sub>2</sub> +SF <sub>6</sub> | no plateau                |

Eco+He<sub>4</sub> (to lower the plateau HV)  
Eco+CO<sub>2</sub>+X ?