

PionLT Lumi Update 10/10/2024

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Got the Coin Lumi settings working, need to refine the PID cuts. Particularly need to add a random subtraction.

No Track Cuts I'm using now (example numbers for 14620):

H_bcm_bcm2_AvgCurrent" : (abs(H_bcm_bcm2_AvgCurrent-15.0) < 3.0),
pEDTM_tdcTime" : (T_coin_pEDTM_tdcTimeRaw == 0),

CTime_ePiCoinTime_ROC1" : ((CTime_ePiCoinTime_ROC1 > ((63.0)-((2.004)/2.0)-(0.25))) &
(CTime_ePiCoinTime_ROC1 < ((63.0)+((2.004)/2.0)+(0.25))))),

P_hod_goodstarttime" : (P_hod_goodstarttime == 1),
H_hod_goodstarttime" : (H_hod_goodstarttime == 1),
P_gtr_beta" : ((abs(P_gtr_beta-1)) < 0.3),
P_hgcer_npeSum" : (P_hgcer_npeSum > 1.5),
P_aero_npeSum" : (P_aero_npeSum > 1.5),
P_cal_etottracknorm" : (P_cal_etottracknorm < 0.7),
H_gtr_beta" : ((abs(H_gtr_beta-1)) < 0.3),
H_cer_npeSum" : (H_cer_npeSum > 3.0),
H_cal_etottracknorm" : (H_cal_etottracknorm > 0.7)

I think the ones marked blue should be removed

Track Cuts (14620)

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H_bcm_bcm2_AvgCurrent : (abs(H_bcm_bcm2_AvgCurrent-15.0) < 3.0),
P_hod_goodscinhit : (P_hod_goodscinhit == 0),
P_hod_betanotrack : ((P_hod_betanotrack > 0.5) & (P_hod_betanotrack < 1.4)),
P_dc_1*_nhit : ((P_dc_1x1_nhit + P_dc_1u2_nhit + P_dc_1u1_nhit + P_dc_1v1_nhit + P_dc_1x2_nhit + P_dc_1v2_nhit) < 20)
P_dc_2*_nhit : ((P_dc_2x1_nhit + P_dc_2u2_nhit + P_dc_2u1_nhit + P_dc_2v1_nhit + P_dc_2x2_nhit + P_dc_2v2_nhit) < 20)
P_dc_ntrack : (P_dc_ntrack > 0.0),
H_hod_goodscinhit : (H_hod_goodscinhit == 0),
H_hod_betanotrack : ((H_hod_betanotrack > 0.8) & (H_hod_betanotrack < 1.3)),
H_dc_1*_nhit : ((H_dc_1x1_nhit + H_dc_1u2_nhit + H_dc_1u1_nhit + H_dc_1v1_nhit + H_dc_1x2_nhit + H_dc_1v2_nhit) < 20)
H_dc_2*_nhit : ((H_dc_2x1_nhit + H_dc_2u2_nhit + H_dc_2u1_nhit + H_dc_2v1_nhit + H_dc_2x2_nhit + H_dc_2v2_nhit) < 20)
H_dc_ntrack : (H_dc_ntrack > 0.0),
pEDTM_tdcTime : (T_coin_pEDTM_tdcTimeRaw == 0),
CTime_ePiCoinTime_ROC1 : ((CTime_ePiCoinTime_ROC1 > ((63.0)-((2.004)/2.0)-(0.25))) & (CTime_ePiCoinTime_ROC1 <
((63.0)+((2.004)/2.0)+(0.25))))),
P_hod_goodstarttime : (P_hod_goodstarttime == 1),
H_hod_goodstarttime : (H_hod_goodstarttime == 1),
P_gtr_beta : ((abs(P_gtr_beta-1)) < 0.3),
P_hgcer_npeSum : (P_hgcer_npeSum > 1.5),
P_aero_npeSum : (P_aero_npeSum > 1.5),
P_cal_etottracknorm : (P_cal_etottracknorm < 0.7),
H_gtr_beta : ((abs(H_gtr_beta-1)) < 0.3),
H_cer_npeSum : (H_cer_npeSum > 3.0),
H_cal_etottracknorm : (H_cal_etottracknorm > 0.7)]
```

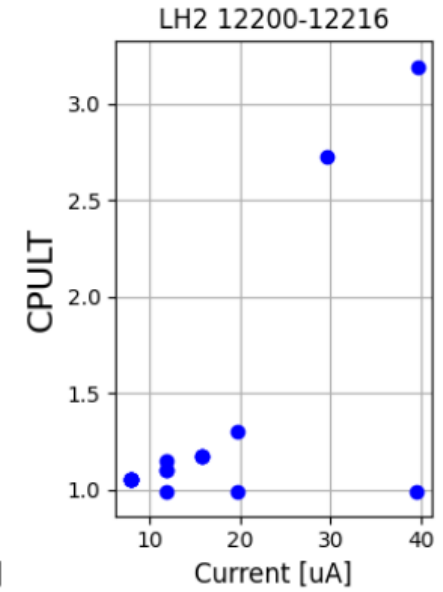
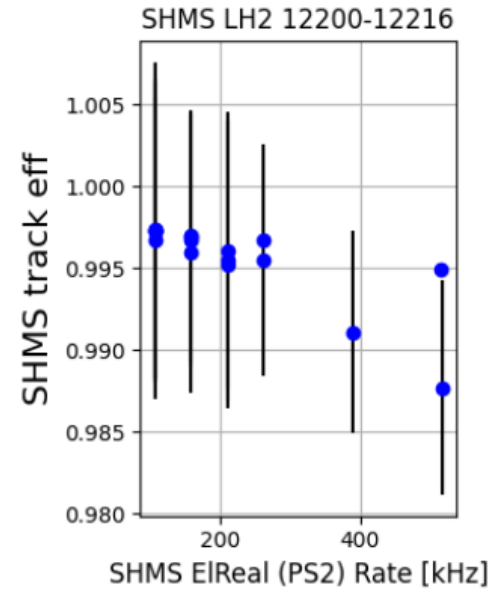
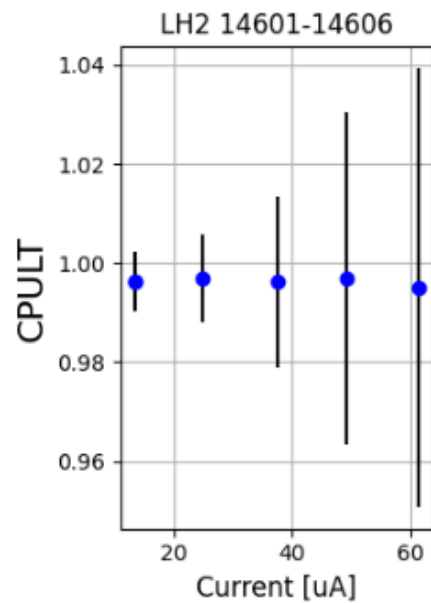
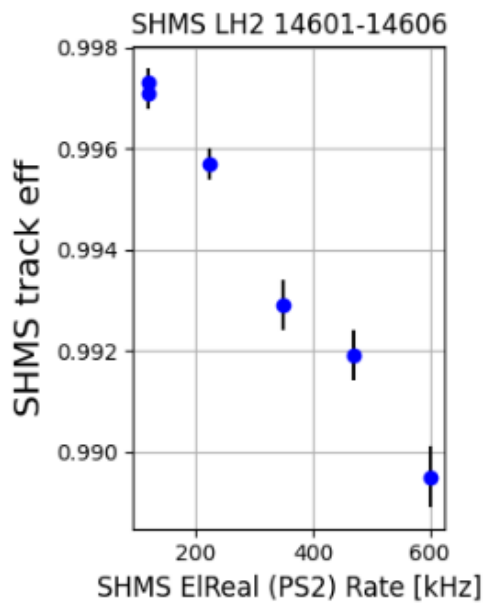
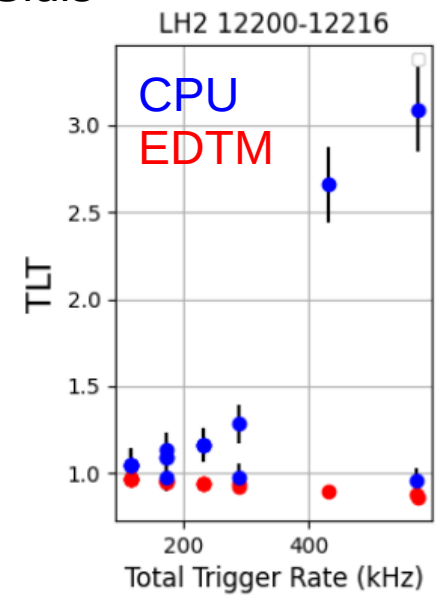
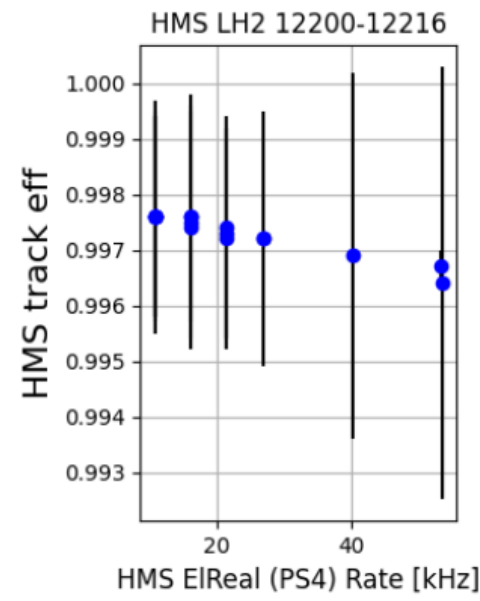
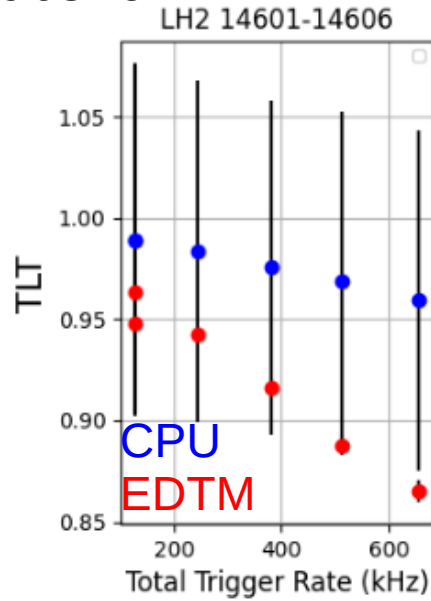
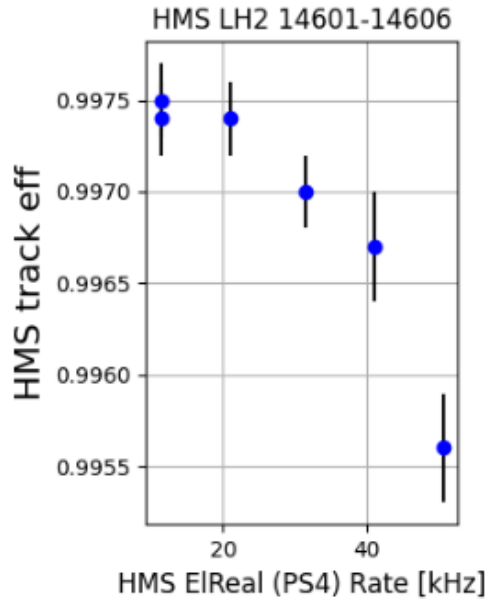
I think the ones marked blue should be removed

Efficiencies

EDTM LT is behaving, (sometimes CPU is buggy):

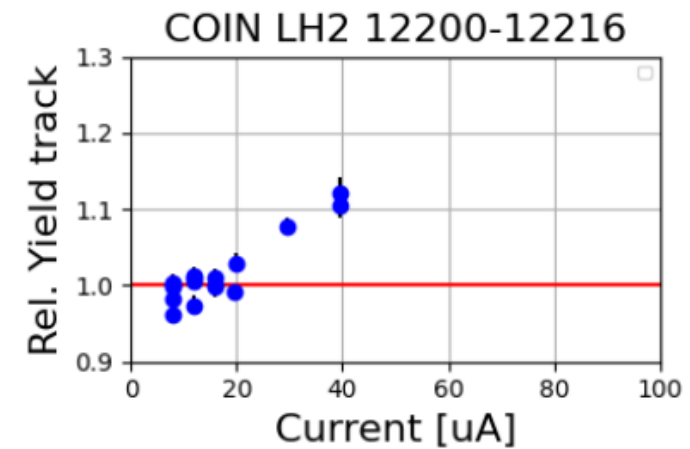
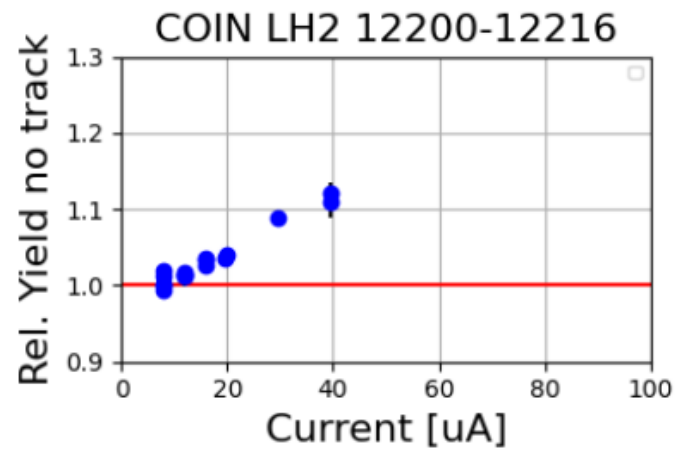
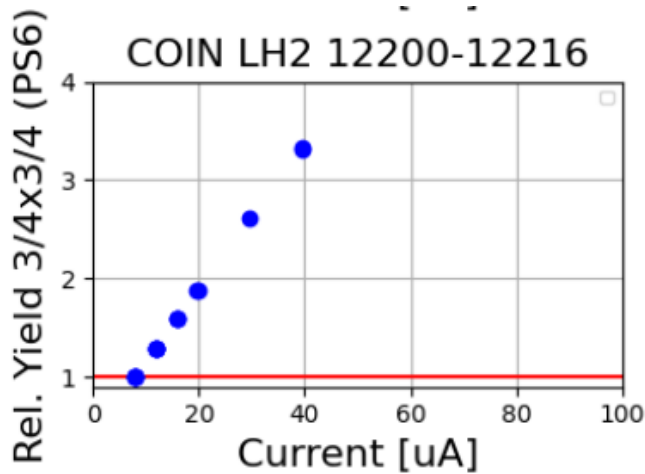
Exclusive

Sidis

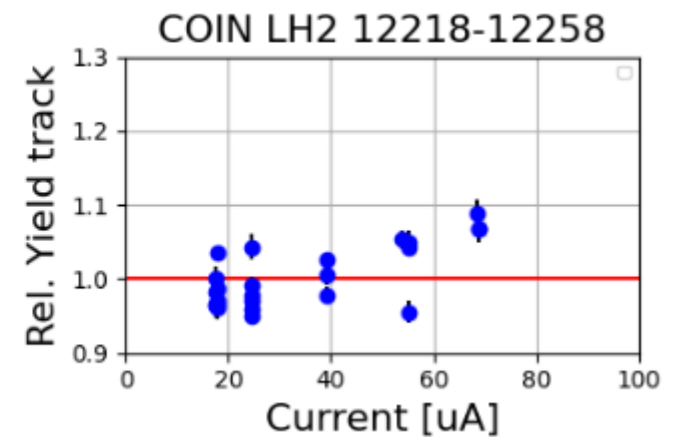
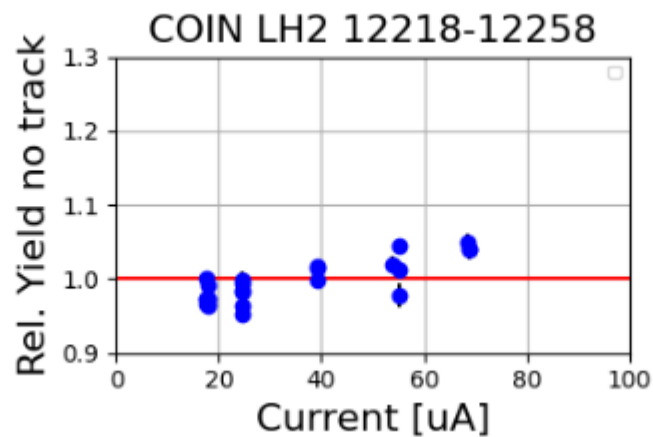
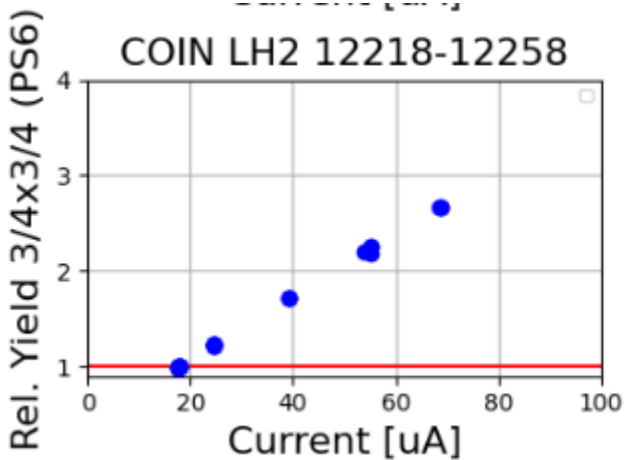


SIDIS Yields:

Sidis Setting 1

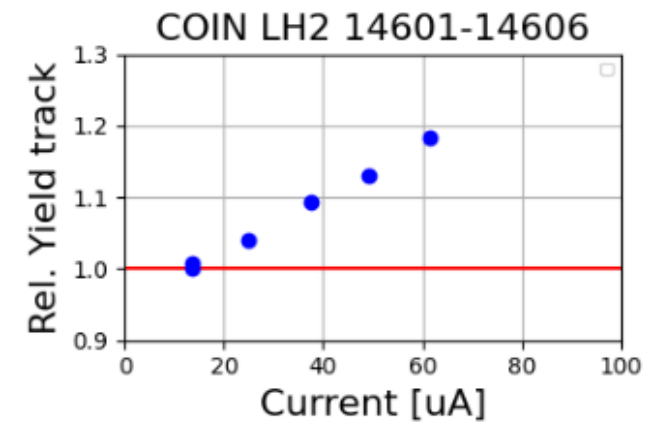
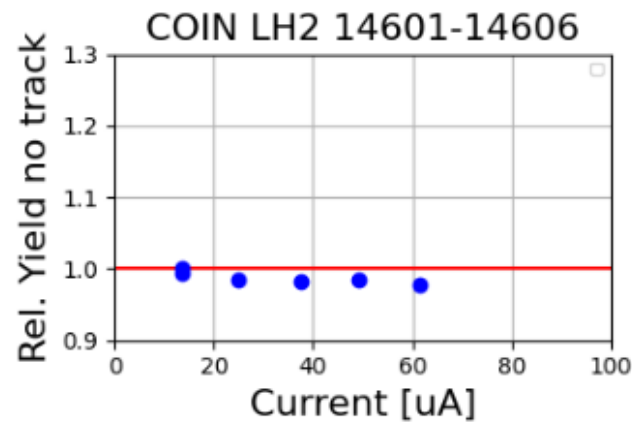
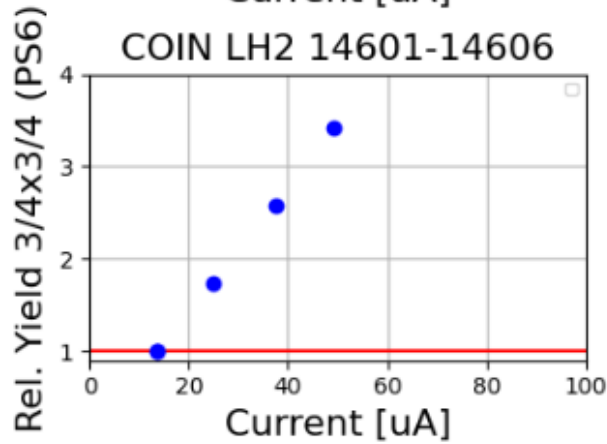


Sidis Setting 2

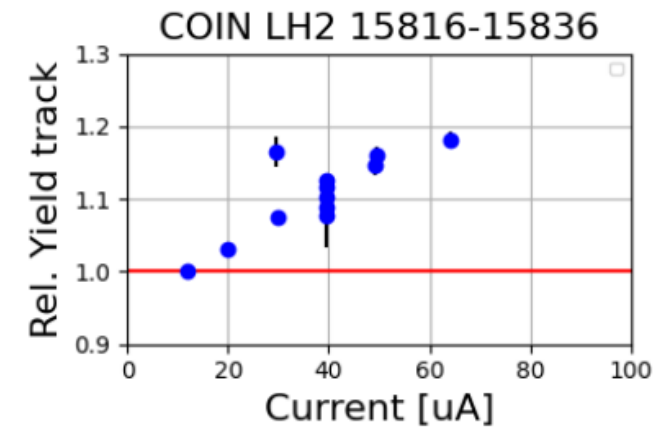
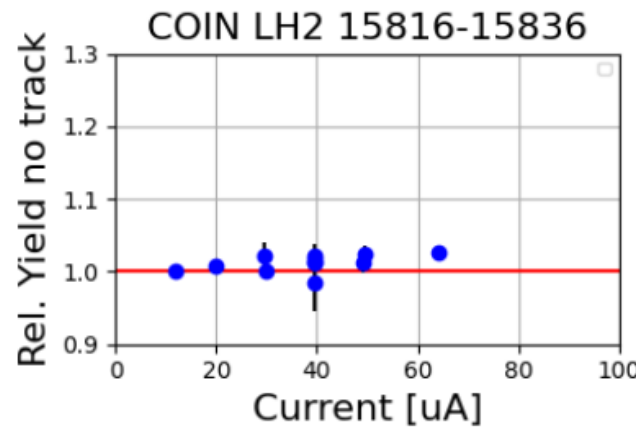
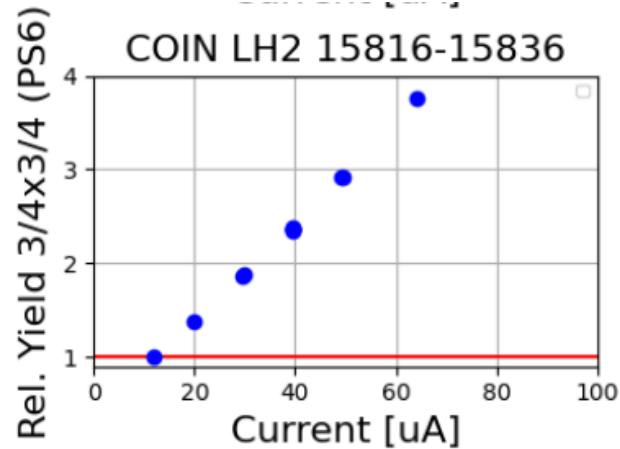


Exclusive Yields

Exclusive Setting 1



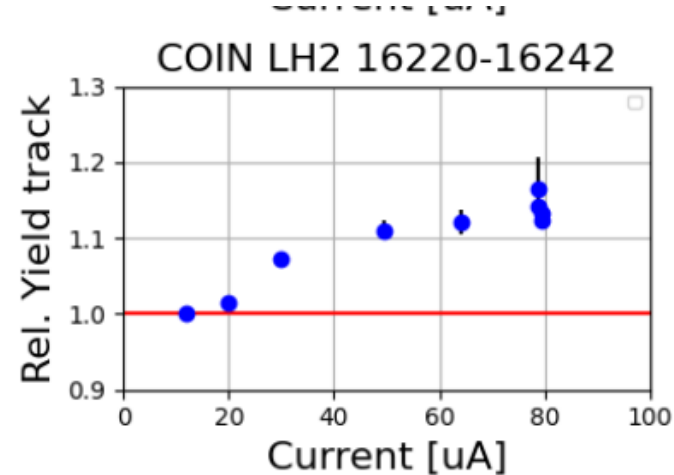
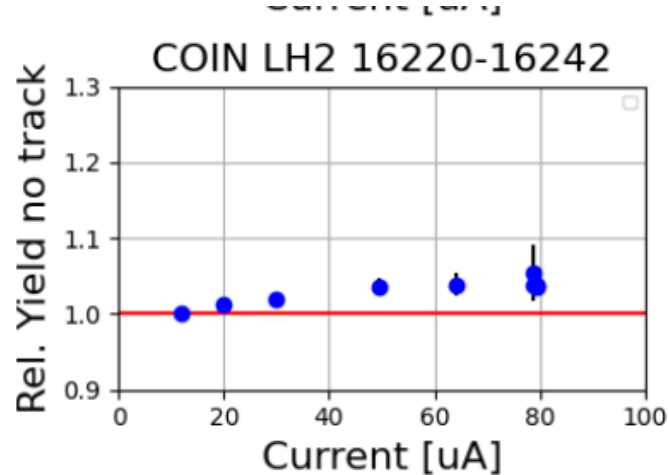
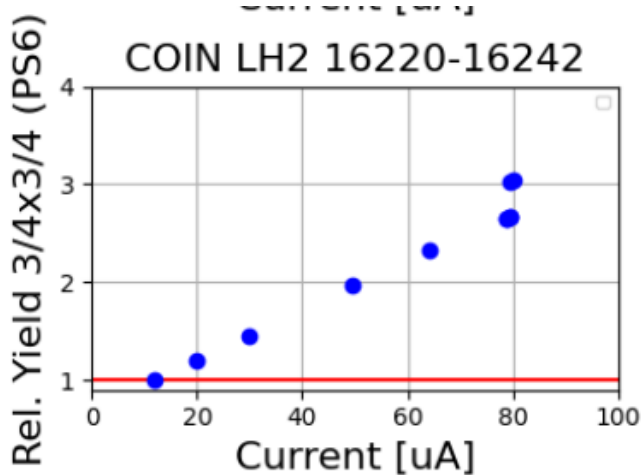
Exclusive Setting 3



Exclusive Setting 2 had a minor bug, so I don't have the plots ready for this meeting

Exclusive Yields

Exclusive Setting 4



Exclusive Setting 5

