Table 1
Beamtime required for the proposed experiment. The different run type are: commissionning (1), Mott polarimeter measurements (2), electron calibration of the Compton transmission polarimeter (3), positron polarization measurements (4), and diagnostic detector measurements (5).

Run Type #	Beam Energy (MeV)	Beam Current	Beam Polarization (%)	Target (mm)	Target Thickness (mg/cm^2)	Beam Time (h)
1	2-6.3	1 nA-1 μA	≥ 85	T1-1.0	1925	105
				T2-1.0	1925	
				T2-2.0	3369	
				Ana. Tgt.	59055	
2	6.3	1-5 μA	≥ 85	Mott Tgt.	19.3	10
3	2-6.3	30 pA-10 nA	≥ 85	T1-0.1	192.5	85
				T1-1.0	1925	
				T1-2.0	3850	
				T2-1.0	1925	
				T2-2.0	3369	
				Pol. Tgt.	59055	
4	6.3	1-4 μA	≥ 85	T1-0.1	192.5	100
				T1-1.0	1925	
				T2-1.0	1925	
				T2-2.0	3369	
				Ana. Tgt.	59055	
5	6.3	1-4 μA	≥ 85	Ann. Det.	$\leq$ 1925	36
				Fib. Det.	200	
					Total	**336**

Table 2
List of targets.

Name	Material	Thickness		Beam Energy	Beam Current	Beam-on Time
		(mm)	(mg/cm^2)	(MeV)	(μA)	(h)
Mott	Au	0.001	19.3	1-5	1-5	10
Viewer				2-6.3	< 1	
Production (T1)	W	0.1	192.5		≤ 4	62
		1.0	1925			62
		2.0	3850			62
Annihilation					< 1	24
Profiler		2.0	200			12
Conversion (T2)	W	1.0	1925		< 0.001	100
		2.0	3369			100
Analyzer	Fe	75	59055			200

Table 3
List of the sixteen experimental configurations.

Name	T1 (mm)	T2 (mm)	Analyzer Polarity
A1+	0.0	1.0	+
A1−	0.0	1.0	−
A2+	0.0	2.0	+
A2−	0.0	2.0	−
B1+	0.1	1.0	+
B1−	0.1	1.0	−
B2+	0.1	2.0	+
B2−	0.1	2.0	−
C1+	1.0	1.0	+
C1−	1.0	1.0	−
C2+	1.0	2.0	+
C2−	1.0	2.0	−
D1+	2.0	1.0	+
D1−	2.0	1.0	−
D2+	2.0	2.0	+
D2−	2.0	2.0	−

Table 4
Beam parameters for electron measurements: the sixteen experimental configurations are measured for each beam energy.

p_{e^-} (MeV/c)	P_{e^-} (%)	I_{e^-} (pA)
2.0	85	1034
3.0	85	269
4.0	85	105
5.0	85	56
6.0	85	34

Table 5
Beam parameters for positron measurements: all configurations but D's are measured for each beam energy.

p_{e^-} (MeV/c)	P_{e^-} (%)	I_{e^-} (μA)	p_{e^+} (MeV/c)
6.0	85	4	2
6.0	85	4	3
6.0	85	4	4
6.0	85	4	5