Supporting Information

Silver-based hybrid materials from meta or para phosphonobenzoic acid: Influence of the topology on silver release in water.

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1- Powder X-Ray diffraction

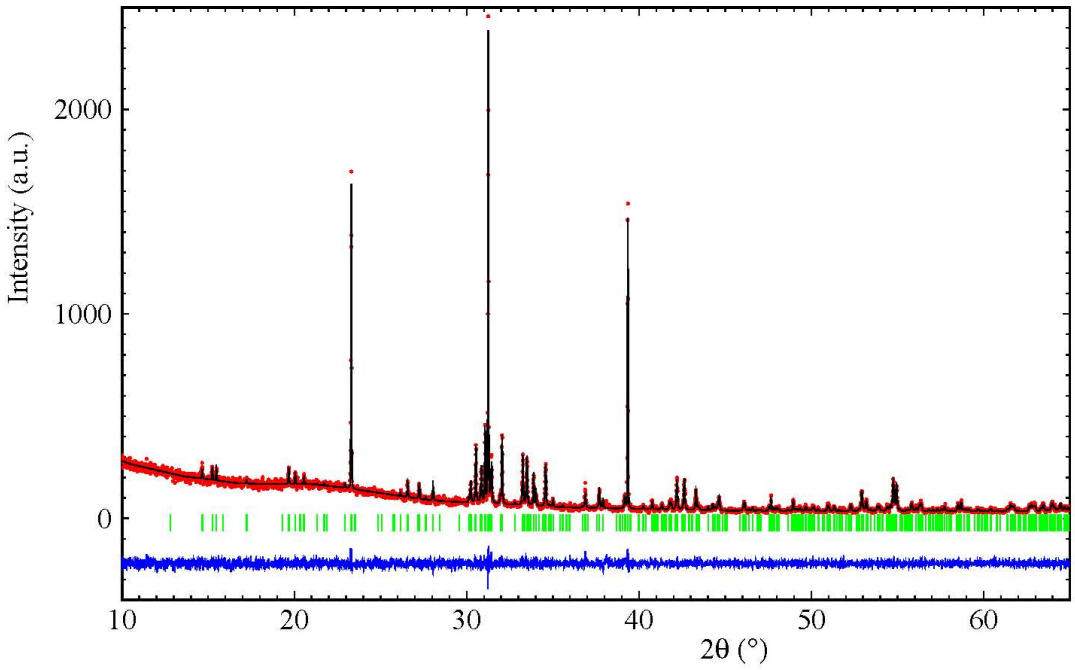

Figure S.I.1. : X-Ray powder diffraction data recorded *Ag_3(4-PO_3-C_6H_4-COO) (**1**)*. The vertical green dashed lines correspond to the calculated position of the peaks, the bottom blue line to the difference between experimental (black line) and calculated pattern (red dots).

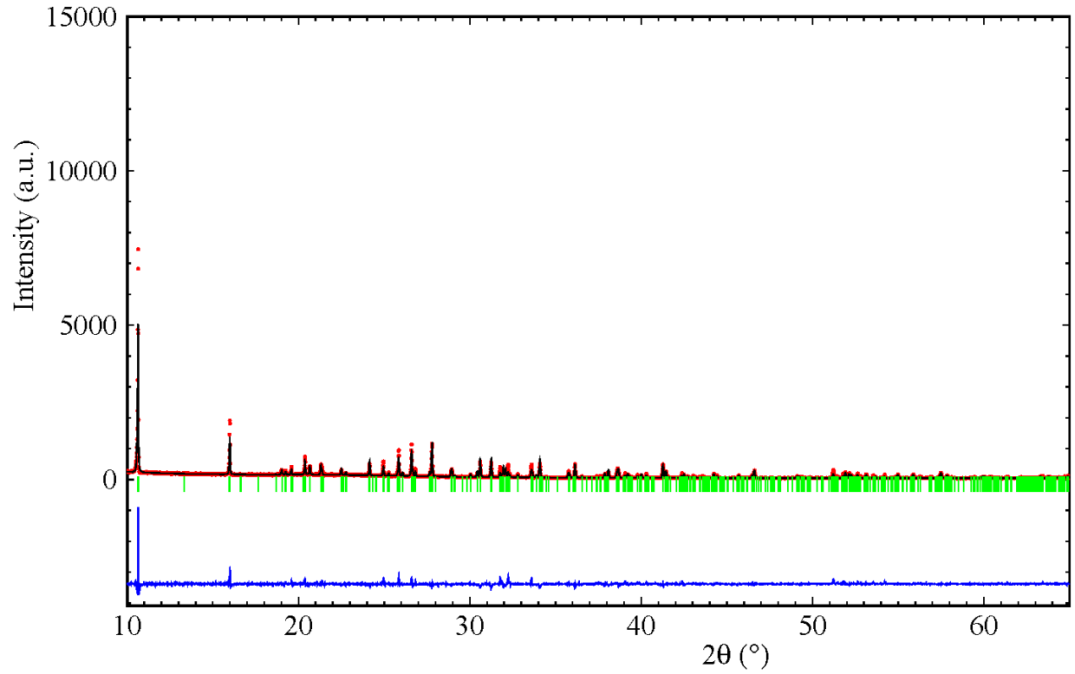

Figure S.I.2. : X-Ray powder diffraction data recorded *Ag(4-PO_3H-C_6H_4-COOH) (**2**)*. The vertical green dashed lines correspond to the calculated position of the peaks, the bottom blue line to the difference between experimental (black line) and calculated pattern (red dots).

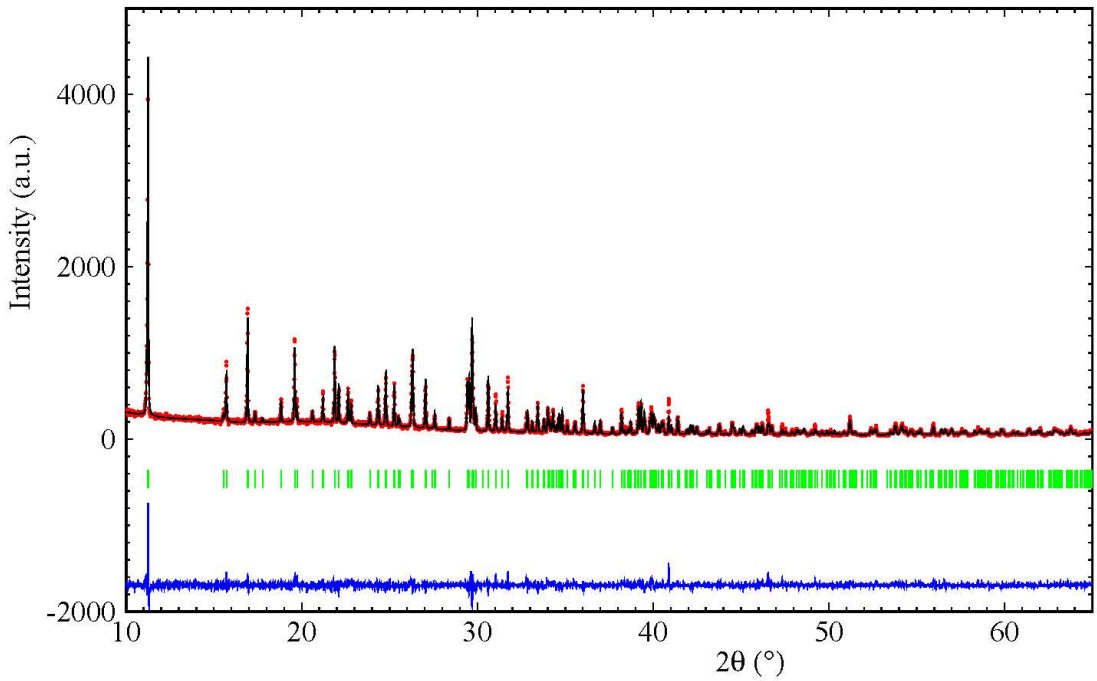

Figure S.I.3. : X-Ray powder diffraction data recorded Ag(*3*-PO_3H-C_6H_4-COOH) (**3**). The vertical green dashed lines correspond to the calculated position of the peaks, the bottom blue line to the difference between experimental (black line) and calculated pattern (red dots).

2- Scanning electron microscopy

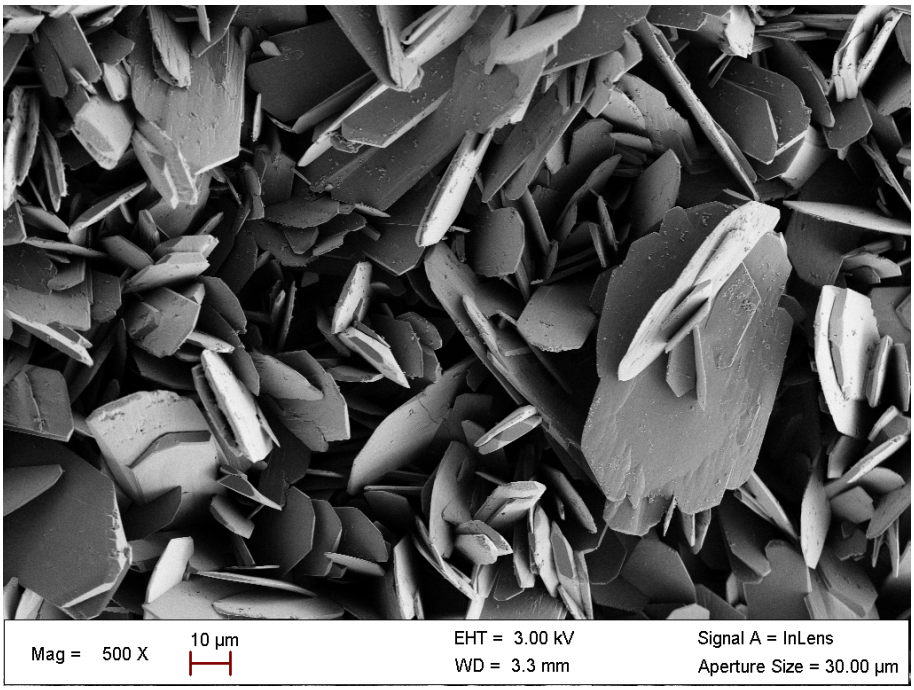

Figure S.I.4. : Crystallites of *Ag_3(4-PO_3-C_6H_4-COO) (**1**)* observed by scanning electron microscopy

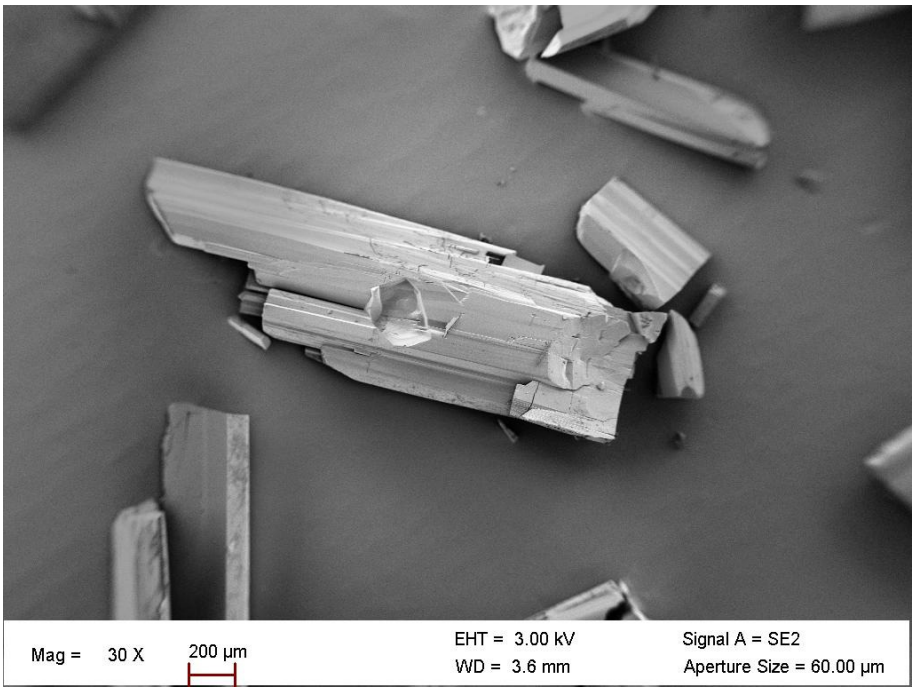

Figure S.I.5. : Crystallites of *Ag(4-PO_3H-C_6H_4-COOH) (**2**)* observed by scanning electron microscopy

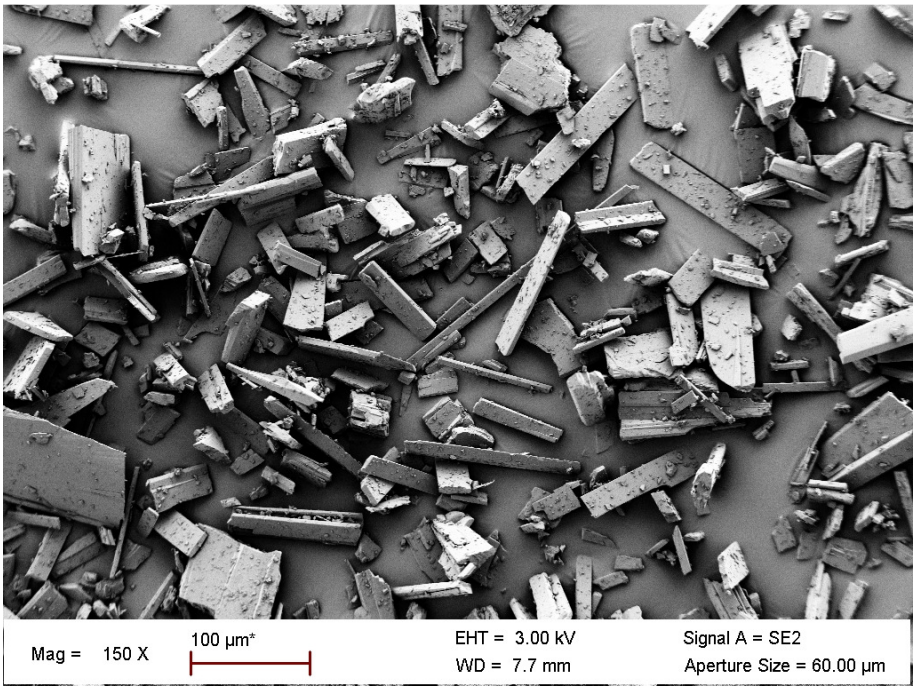

Figure S.I.6. : Crystallites of *Ag(3-PO_3H-C_6H_4-COOH)* (***3***) observed by scanning electron microscopy

3- X-ray diffraction after TGA

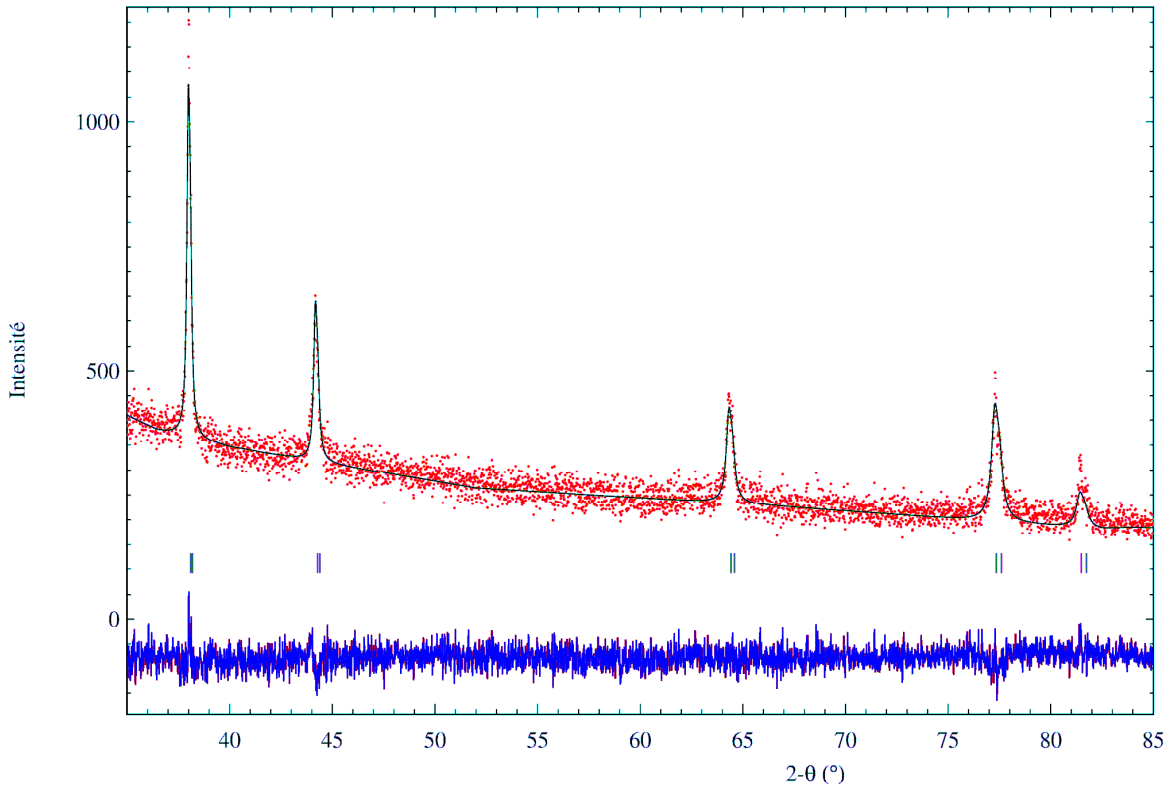

Figure S.I.7: X-Ray powder diffraction data recorded on silver metal obtained as final product of TGA (Ag, cubic, Fm-3m, a~4.087Å). The vertical green dashed lines correspond to the calculated position of the peaks, the bottom blue line to the difference between experimental (black line) and calculated pattern (red dots).

4- X-ray diffraction - Positional parameters

Table SI-1: Positional parameters for $Ag_3(PO_3\text{-}C_6H_4\text{-}COO)$ **1**

atom	x	y	z	U_{eq} (Å^2)
Ag1	0.47004(6)	0.18960(6)	0.055452(16)	0.03097(11)
Ag2	0.04491(5)	0.19926(6)	0.052421(16)	0.03138(11)
Ag3	0.73836(5)	0.16160(7)	0.43361(2)	0.04294(14)
P1	0.24480(15)	0.16545(17)	0.43040(5)	0.0182(3)
O1	0.0657(4)	0.2941(4)	0.45094(13)	0.0234(9)
O2	0.4311(4)	0.2834(5)	0.45403(13)	0.0241(9)
O4	0.3217(7)	0.0910(7)	0.13614(16)	0.0586(16)
O3	0.2442(4)	-0.0893(5)	0.44778(13)	0.0264(9)
C1	0.2431(6)	0.1886(6)	0.35126(17)	0.0204(11)
C2	0.3107(6)	0.0067(7)	0.31685(18)	0.0259(12)
C3	0.3164(6)	0.0285(8)	0.25714(19)	0.0280(13)
C6	0.1778(6)	0.3893(7)	0.32319(19)	0.0270(13)
C4	0.2480(6)	0.2306(8)	0.22990(18)	0.0255(12)
C5	0.1818(6)	0.4104(8)	0.2638(2)	0.0307(14)
O5	0.1780(6)	0.4283(9)	0.14179(18)	0.0799(19)
C7	0.2487(7)	0.2531(10)	0.1648(2)	0.0359(15)
H1c2	0.3535	-0.1348	0.3352	0.031104
H1c3	0.3672	-0.0949	0.2344	0.033584
H1c6	0.1292	0.5148	0.3457	0.032396
H1c5	0.1381	0.5515	0.2453	0.036835

Table SI-2 : Inter atomic distances (Å) for $Ag_3(PO_3\text{-}C_6H_4\text{-}COO)$ **1**; Symmetry codes: (i) -x+1,y-1/2,-z+1/2; (ii) x,-y+1/2,z-1/2; (iii) -x+1,y+1/2,-z+1/2; (iv) -x,y-1/2,-z+1/2; (v) -x,y+1/2,-z+1/2; (vi) x+1,y,z; (vii) -x+1,-y,-z+1; (viii) x,y-1,z

Ag1-O2^{i}	2.454(3)	Ag2-O1^{iv}	2.460(3)	Ag3-O1^{vi}	2.413(3)
Ag1-O2^{ii}	2.337(3)	Ag2-O1^{ii}	2.341(3)	Ag3-O2	2.313(3)
Ag1-O4	2.233(4)	Ag2-O3^{v}	2.348(3)	Ag3-O5^{i}	2.288(5)
Ag1-O3^{iii}	2.362(3)	Ag2-O5	2.577(5)		
P1-O1	1.540(3)	C1-C2	1.406(6)	C6-C5	1.372(6)
P1-O2	1.538(3)	C2-C3	1.379(6)	C1-C6	1.392(6)
P1-O3	1.523(3)	C3-C4	1.396(6)	C4-C7	1.500(6)
P1-C1	1.822(4)	C4-C5	1.387(6)	O4-C7	1.263(7)
				O5-C7	1.232(7)
C2-H1c2	0.96	C1-H1c2	2.0563	C6-H1c5	2.0255
C3-H1c3	0.96	C1-H1c6	2.0434	C4-H1c3	2.053
C5-H1c5	0.96	C2-H1c3	2.0374	C4-H1c5	2.0395
C6-H1c6	0.96	C3-H1c2	2.0314	C5-H1c6	2.0252

Table SI-3: Positional parameters for $Ag(PO_3H\text{-}C_6H_4\text{-}COOH)$ **2**

atom	x	y	z	U_{eq} (Å^2)
Ag1	0.54411(6)	0.28807(5)	0.26365(2)	0.03367(8)
P1	0.49337(15)	0.81610(13)	0.31278(2)	0.02008(13)
O1	0.3497(5)	0.6465(4)	0.28248(7)	0.0300(5)
C1	0.5160(8)	0.6973(7)	0.39473(10)	0.0355(7)
H1	0.3815	0.8186	0.3978	0.043
C5	0.8040(8)	0.3752(7)	0.42321(10)	0.0316(6)
C3	0.6234(6)	0.6574(5)	0.35735(9)	0.0233(5)
O2	0.7774(10)	0.2448(7)	0.49042(10)	0.0680(12)
H2	0.8316	0.1389	0.5063	0.102
C2	0.9207(8)	0.3400(6)	0.38618(10)	0.0332(7)
H2A	0.0598	0.2219	0.3834	0.040
O6	0.0819(9)	0.0605(7)	0.45216(10)	0.0609(10)
C7	0.8936(9)	0.2172(8)	0.45768(11)	0.0395(8)
O3	0.2710(5)	0.0048(4)	0.32661(7)	0.0273(4)
H3	0.1073	0.9718	0.3168	0.041
O4	0.7465(5)	0.9545(4)	0.29689(7)	0.0271(4)
C4	0.8307(7)	0.4798(6)	0.35354(10)	0.0288(6)
H4	0.9093	0.4555	0.3286	0.035
C6	0.6071(9)	0.5580(7)	0.42774(11)	0.0392(8)
H6	0.5360	0.5871	0.4530	0.047

Table SI-4 : Inter atomic distances (Å) for $Ag(PO_3H\text{-}C_6H_4\text{-}COOH)$ **2**

Ag1-O1	2.305(2)	P2-O1	1.501(2)	C1-C3	1.378(4)
Ag1-O1	2.420(2)	P2-C3	1.787(3)	C1-C6	1.383(5)
Ag1-O4	2.461(2)	P2-O3	1.562(2)	C5-C2	1.382(5)
Ag1-O4	2.332(2)	P2-O4	1.522(2)	C5-C7	1.479(5)
C5-C6	1.384(5)	C1-H1	0.930(4)	C6-H6	0.931(4)
C3-C4	1.391(4)	O2-H2	0.820(4)	H4-C3	2.021(3)
O2-C7	1.248(5)	C2-H2a	0.930(4)	H4-C2	2.005(3)
C2-C4	1.374(4)	O3-H3	0.820(2)	H6-C1	2.017(3)
O6-C7	1.257(5)	C4-H4	0.931(3)	H2a-C5	2.016(4)
H2-C7	1.707(4)	H1-C3	2.011(3)	H1-C6	2.014(4)

Table SI-5: Positional parameters for Ag(PO_3-C_6H_4-COOH) **3**

atom	x	y	z	U_{eq} (Å^2)
Ag1	0.69557(7)	0.69807(6)	0.02452(2)	0.0317(3)
P1	0.7794(3)	0.1222(2)	0.12556(8)	0.0179(4)
O1	0.0347(7)	0.9192(6)	0.1478(2)	0.0254(9)
O2	0.5335(7)	0.0067(7)	0.1012(2)	0.0272(9)
O3	0.8623(8)	0.3093(6)	0.0582(2)	0.0309(10)
C1	0.6922(10)	0.2427(9)	0.2214(3)	0.0195(12)
C2	0.8161(11)	0.4347(9)	0.2386(3)	0.0232(13)
C3	0.7567(12)	0.5261(11)	0.3128(4)	0.0297(15)
C4	0.5746(12)	0.4297(10)	0.3718(4)	0.0284(14)
C5	0.4507(10)	0.2374(9)	0.3562(3)	0.0216(13)
C6	0.5100(10)	0.1457(9)	0.2812(3)	0.0180(12)
C7	0.2578(10)	0.1322(10)	0.4195(3)	0.0233(13)
O4	0.1480(9)	0.9583(8)	0.4022(3)	0.0358(11)
O5	0.2104(9)	0.2175(8)	0.4870(3)	0.0377(10)
H1	0.1803	0.9614	0.1268	0.038
H2	0.9395	0.5009	0.1994	0.028
H3	0.8399	0.6539	0.3234	0.036
H4	0.5348	0.4927	0.4217	0.034
H4A	0.0229	0.9305	0.4366	0.054
H6	0.4269	0.0177	0.2708	0.022

Table SI-6: Inter atomic distances (Å) for Ag(PO_3-C_6H_4-COOH) **3/** symmetry codes : (i) -x+1,-y+2,-z; (ii) x,y-1,z ; (iii) -x+2,-y+2,-z ; (iv) x+1,y,z

Ag1-O2	2.355(4)	O1-P1	1.567(3)	C1-C2	1.401(8)
Ag1-O2^{i}	2.563(3)	O2-P1	1.515(4)	C3-C2	1.376(8)
Ag1-O3^{ii}	2.268(3)	O3-P1	1.499(4)	C3-C4	1.381(8)
Ag1-O3^{iii}	2.467(4)	C1-P1	1.791(5)	C4-C5	1.395(8)
C6-C5	1.388(7)	C2-H2	0.931(5)	O1-H1	0.820(3)
C6-C1	1.391(7)	C3-H3	0.930(7)	C7-H4a	1.728(6)
C7-C5	1.478(7)	C4-H4	0.929(7)	H6-C1	2.019(5)
C7-O5	1.254(7)	C6-H6	0.930(6)	H6-C5	2.017(5)
C7-O4	1.272(8)	O4-H4a	0.821(4)	C3-H2	2.008(6)
H3-C4	2.012(6)	C1-H2	2.030(5)	H1-P1	1.9961(14)
H3-C2	2.007(5)	H1-O2^{iv}	1.773(3)		
C3-H4	2.015(6)	H4-C5	2.027(6)		