Table S1. Crystal data and structure refinement for $(NH_4)_2Al(H_{1/2}O_3PCH_2CO_2)_2$ (CCDC 842302)

Empirical formula	$C_4 H_{13} Al N_2 O_{10} P_2$
Formula weight	338.08
Temperature	110(2) K
Wavelength	0.71073 Å
Crystal system	Triclinic
Space group	P(-1)
α(Å)	4.757(2)
b(Å)	8.231(4)
c(Å)	8.524(4)
α(°)	61.184(4)
β(°)	79.059(5)
γ(°)	85.228(5)
Volume	287.2(2) $Å^3$
Z	2
ρ_{calc}	1.955Mg/m^3
μ	0.511 mm^{-1}
F(000)	174
Crystal size	0.22 x 0.15 x 0.05 mm^3
Index ranges	-6<=h<=6, -10<=k<=10, -10<=l<=10
Reflections collected	3192
Independent reflections	1235 [R(int) = 0.0170]
Refinement method	Full-matrix least-squares on F^2
Data / restraints / parameters	1235 / 0 / 105
Goodness-of-fit on F^2	1.086
Final R indices [I>2sigma(I)]	R1 = 0.0248, wR2 = 0.0687
R indices (all data)	R1 = 0.0271, wR2 = 0.0702
Largest diff. peak and hole	0.378 and -0.395 e.$Å^{-3}$

Table S2. Bond lengths [Å] and angles [°] for $(NH_4)_2Al(H_{1/2}O_3PCH_2CO_2)_2$

Al(1)-O(3)#1	1.8650(12)	O(3)#1-Al(1)-O(5)#1	93.82(5)
Al(1)-O(3)	1.8650(12)	O(3)-Al(1)-O(5)#1	86.18(5)
Al(1)-O(1)#2	1.8834(13)	O(1)#2-Al(1)-O(5)#1	91.10(5)
Al(1)-O(1)#3	1.8834(13)	O(1)#3-Al(1)-O(5)#1	88.90(5)
Al(1)-O(5)	1.9301(14)	O(5)-Al(1)-O(5)#1	180.00(1)
Al(1)-O(5)#1	1.9301(14)	O(1)-P(1)-O(3)	113.76(6)
O(1)-Al(1)#4	1.8834(13)	O(1)-P(1)-O(2)	110.16(6)
P(1)-O(1)	1.5172(13)	O(3)-P(1)-O(2)	110.40(7)
P(1)-O(3)	1.5211(12)	O(1)-P(1)-C(1)	109.32(7)
P(1)-O(2)	1.5384(12)	O(3)-P(1)-C(1)	106.72(7)
P(1)-C(1)	1.8073(18)	O(2)-P(1)-C(1)	106.15(7)
C(1)-C(2)	1.519(2)	C(2)-C(1)-P(1)	114.29(11)
C(2)-O(4)	1.245(2)	P(1)-O(1)-Al(1)#4	136.67(7)
C(2)-O(5)	1.2813(19)	O(4)-C(2)-O(5)	122.72(14)
O(3)#1-Al(1)-O(3)	179.99(1)	O(4)-C(2)-C(1)	120.03(14)
O(3)#1-Al(1)-O(1)#2	88.42(6)	O(5)-C(2)-C(1)	117.13(13)
O(3)-Al(1)-O(1)#2	91.58(6)	P(1)-O(3)-Al(1)	130.83(7)
O(3)#1-Al(1)-O(1)#3	91.58(6)	C(2)-O(5)-Al(1)	131.67(10)
O(3)-Al(1)-O(1)#3	88.42(6)		
O(1)#2-Al(1)-O(1)#3	180.00(1)		
O(3)#1-Al(1)-O(5)	86.18(5)		
O(3)-Al(1)-O(5)	93.82(5)		
O(1)#2-Al(1)-O(5)	88.90(5)		
O(1)#3-Al(1)-O(5)	91.10(5)		

Symmetry transformations used to generate equivalent atoms:

#1 -x,-y+2,-z #2 -x+1,-y+2,-z #3 x-1,y,z

#4 x+1,y,z

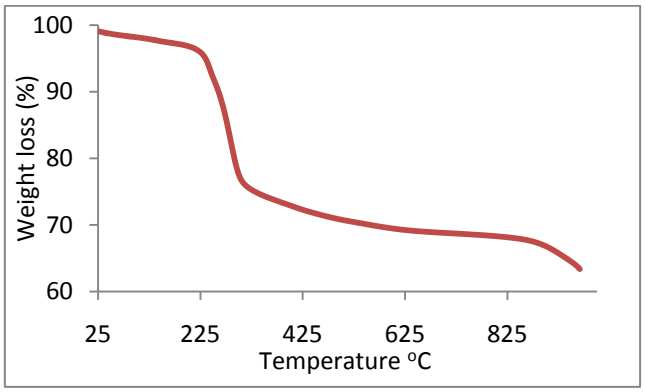

Figure S4. TGA curve of compound **1**