

## Supplementary Information

### ***In vivo* performance of gold nanoparticle-loaded absorbable inferior vena cava filters in a swine model**

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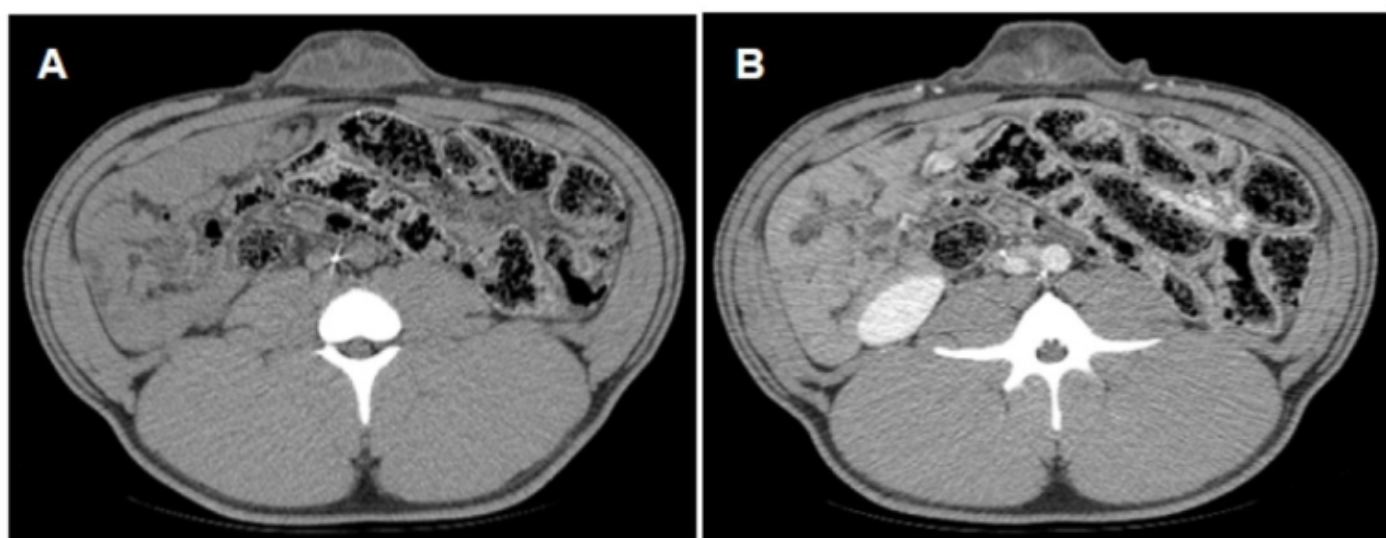
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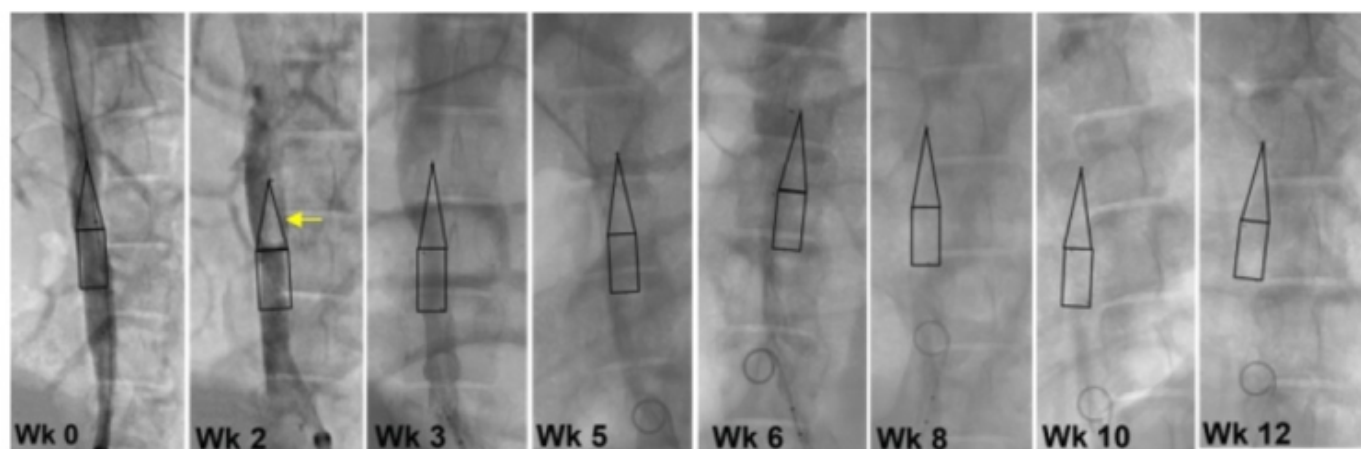
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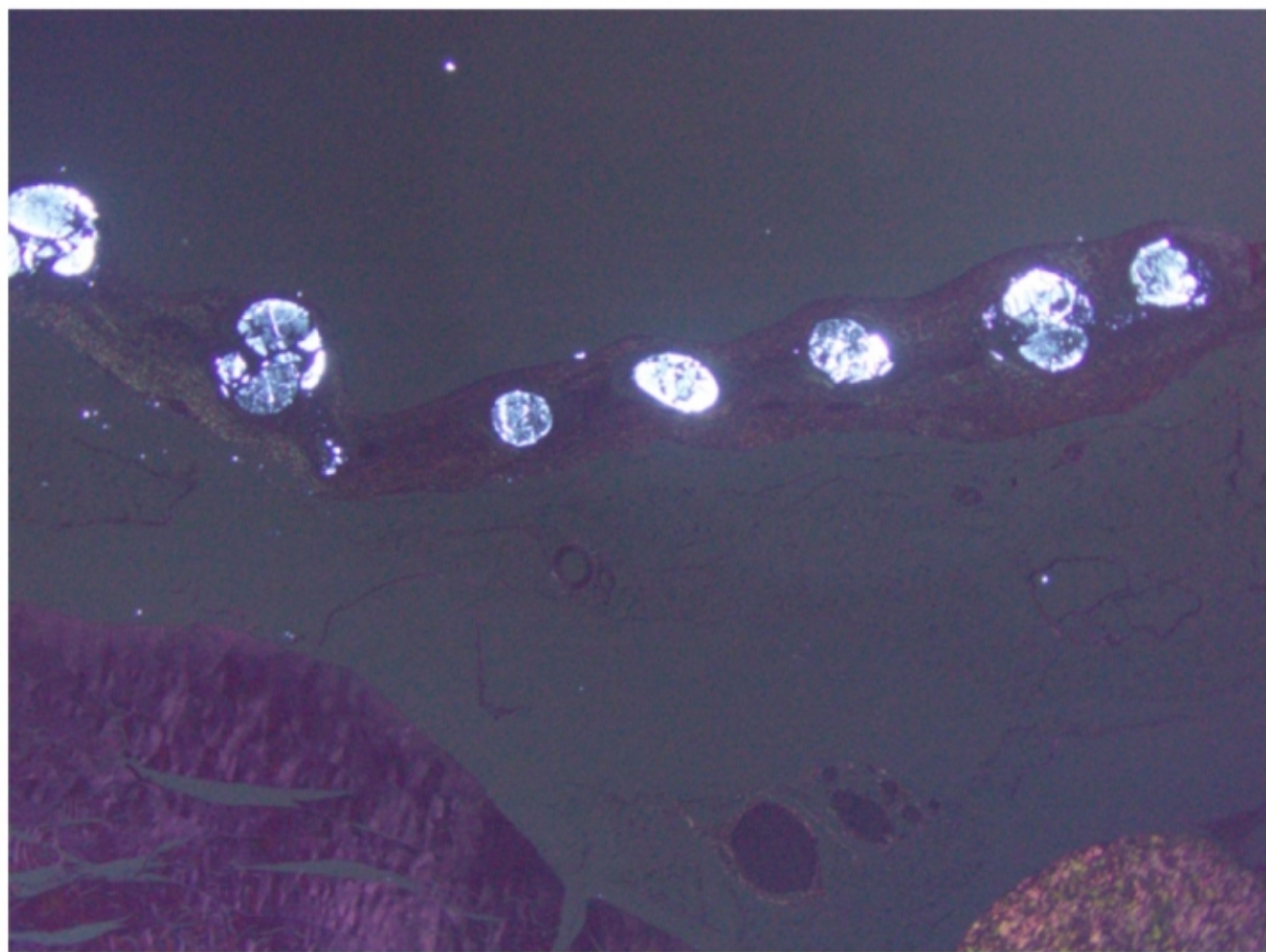
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**Figure S1.** Axial CT images of PPDO IVCF in 1 pig using the Siemens SOMATOM Definition Edge (A) Imaging without iodine contrast. (B) Imaging with iodine contrast.

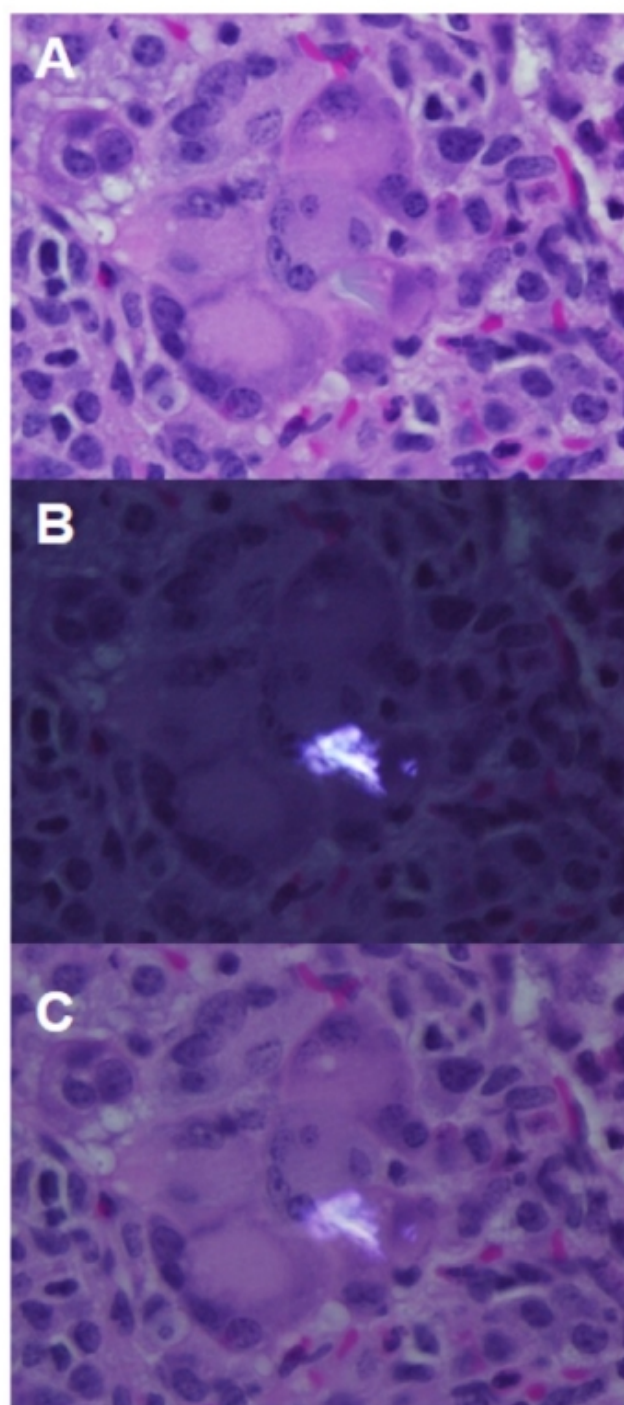


**Figure S2.** Fluoroscopic images from filter deployment to week 12. A thrombus was deployed at week 2 and had already disappeared by week 3. No evidence of PE was observed at the immediate follow-up CT examination.

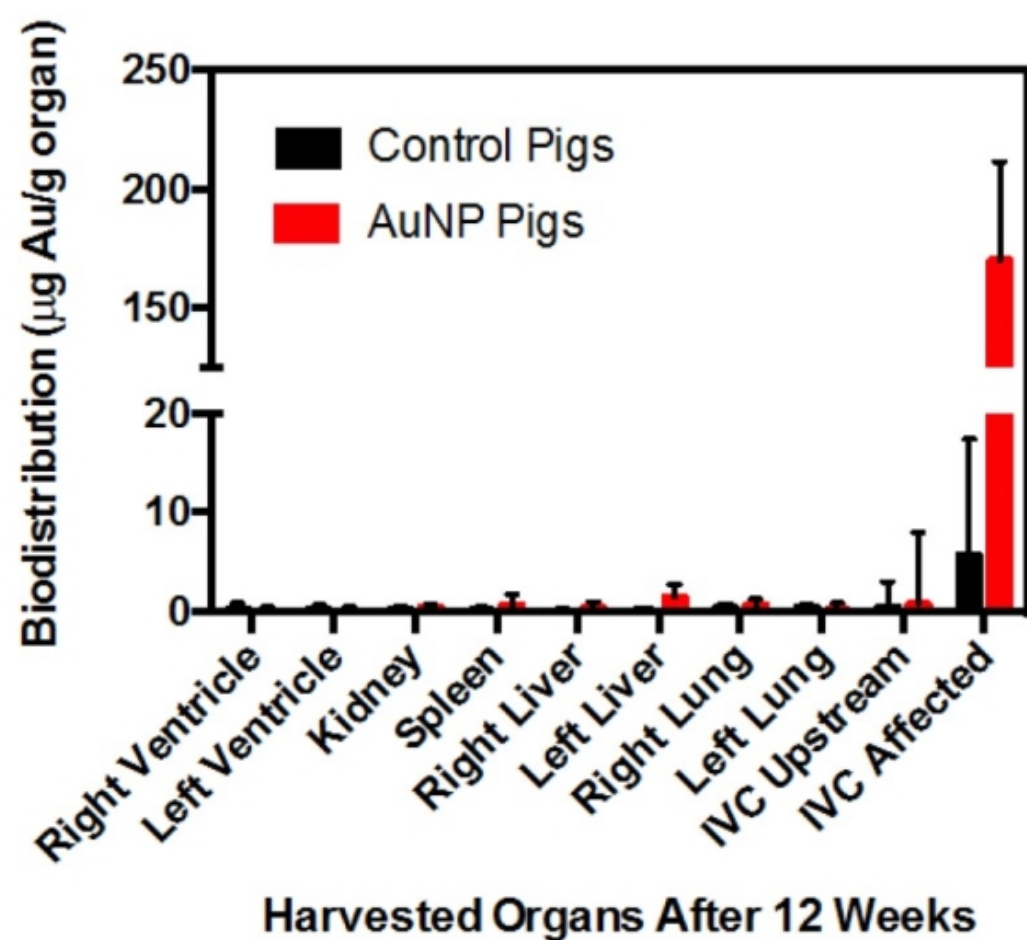


**Figure S3.** PPDO fragments within the caval wall, as confirmed by passing the slide under polarized light.





**Figure S4.** PPDO fragments in the lung tissue. (A) H&E staining of the lung tissue showing a multinucleated giant cell with embedded filter fragment. (B) Confirmation of the PPDO under with polarized light. (C) Overlay of images A and B.



**Figure S5.** Au Biodistribution in harvested organs after 12 weeks of IVCF implantation quantified via ICP-MS

Table S1. Serial Hematologic Parameters

Swine implanted with Control IVCF

Parameter	Sodium (mEq/L)	Potassium (mEq/L)	Chloride (mEq/L)	Cr (mg/dL)	WBC (x10 <sup>9</sup> /uL)	Hgb (g/dL)	Platelets (x10 <sup>9</sup> /uL)	PT (sec)	PTT (sec)	AST (U/L)	ALT (U/L)	pH Level	pCO <sub>2</sub> (mm Hg)	pO <sub>2</sub> (mm Hg)	SO <sub>2</sub> (%)
Baseline	136.9 ± 2.2	4.0 ± 0.2	99.4 ± 1.8	1.6 ± 0.3	16.1 ± 3.9	11.1 ± 0.4	337.0 ± 19.9	13.5 ± 0.2	28.1 ± 11.8	17.7 ± 2.7	27.0 ± 3.5	7.5 ± 0.0	48.6 ± 5.3	554.0 ± 41.9	100.0 ± 0.0
Week 1	135.6 ± 4.3	4.1 ± 0.2	98.6 ± 2.9	1.6 ± 0.4	12.6 ± 3.1	8.8 ± 0.7	362.7 ± 98.0	13.8 ± 0.5	24.9 ± 8.6	20.0 ± 7.9	26.0 ± 7.5	7.3 ± 0.1	66.9 ± 3.4	494.7 ± 43.2	100.0 ± 0.0
Week 3	137.9 ± 2.1	3.8 ± 0.1	100.4 ± 2.2	1.6 ± 0.3	13.9 ± 4.7	9.1 ± 0.4	315.0 ± 28.2	13.4 ± 0.6	25.9 ± 11.0	17.7 ± 3.0	24.7 ± 5.0	7.3 ± 0.0	70.5 ± 4.9	608.3 ± 23.7	100.0 ± 0.0
Week 5	135.4 ± 6.3	3.8 ± 0.2	98.1 ± 4.8	1.6 ± 0.2	12.2 ± 4.1	9.1 ± 0.3	333.0 ± 21.2	13.5 ± 0.4	27.1 ± 10.0	21.3 ± 3.6	32.3 ± 2.3	7.3 ± 0.1	67.1 ± 9.7	566.3 ± 17.9	100.0 ± 0.0
Week 6	136.4 ± 4.8	3.9 ± 0.1	97.5 ± 3.3	1.7 ± 0.2	11.1 ± 3.5	9.4 ± 0.5	348.0 ± 10.6	14.2 ± 0.4	38.0 ± 2.4	18.7 ± 1.8	31.7 ± 3.1	7.3 ± 0.0	69.3 ± 8.4	547.3 ± 42.8	100.0 ± 0.0
Week 8	133.3 ± 4.8	3.7 ± 0.2	96.0 ± 5.0	1.7 ± 0.2	11.6 ± 2.5	9.1 ± 0.4	319.7 ± 32.0	13.5 ± 0.3	34.9 ± 4.9	19.3 ± 3.9	31.0 ± 3.5	7.3 ± 0.0	71.0 ± 3.8	572.3 ± 8.6	100.0 ± 0.0
Week 10	131.6 ± 3.9	3.7 ± 0.1	94.9 ± 4.5	1.6 ± 0.2	10.8 ± 0.9	9.2 ± 0.4	304.0 ± 24.3	13.3 ± 0.3	41.8 ± 6.6	18.3 ± 2.5	31.7 ± 3.1	7.3 ± 0.0	70.7 ± 5.9	582.7 ± 14.2	100.0 ± 0.0
Week 12	129.6 ± 1.7	3.8 ± 0.3	93.1 ± 0.1	1.7 ± 0.4	9.8 ± 1.8	10.2 ± 0.2	259.0 ± 31.1	13.4 ± 0.1	34.6 ± 4.5	18.5 ± 4.9	29.5 ± 0.7	7.4 ± 0.1	55.8 ± 9.3	588.5 ± 70.0	100.0 ± 0.0

Swine implanted with AuNP IVCF

Parameter	Sodium (mEq/L)	Potassium (mEq/L)	Chloride (mEq/L)	Cr (mg/dL)	WBC (x10 <sup>9</sup> /uL)	Hgb (g/dL)	Platelets (x10 <sup>9</sup> /uL)	PT (sec)	PTT (sec)	AST (U/L)	ALT (U/L)	pH Level	pCO <sub>2</sub> (mm Hg)	pO <sub>2</sub> (mm Hg)	SO <sub>2</sub> (%)
Baseline	140.4 ± 0.9	4.4 ± 0.3	102.0 ± 0.7	1.3 ± 0.1	18.4 ± 3.9	8.5 ± 0.6	570.7 ± 172.5	13.0 ± 0.2	22.2 ± 13.2	14.0 ± 1.0	27.3 ± 5.5	7.5 ± 0.1	52.3 ± 8.8	556.0 ± 45.0	100.0 ± 0.0
Week 1	136.6 ± 2.8	4.6 ± 0.1	97.1 ± 1.6	1.2 ± 0.1	17.4 ± 1.6	7.7 ± 0.6	558.0 ± 156.7	13.1 ± 0.4	33.2 ± 8.4	17.7 ± 6.7	32.7 ± 12.9	7.4 ± 0.1	66.5 ± 21.3	505.3 ± 64.3	100.0 ± 0.0
Week 3	139.3 ± 1.5	4.4 ± 0.3	98.3 ± 2.0	1.5 ± 0.2	17.7 ± 4.2	8.2 ± 1.4	658.0 ± 75.3	12.7 ± 0.2	38.2 ± 9.7	17.7 ± 2.9	31.0 ± 7.5	7.6 ± 0.0	48.7 ± 2.4	551.3 ± 93.0	100.0 ± 0.0
Week 5	139.9 ± 1.0	4.1 ± 0.4	99.2 ± 1.0	1.5 ± 0.2	16.0 ± 3.3	9.4 ± 0.7	565.0 ± 95.4	12.7 ± 0.3	38.5 ± 3.9	17.0 ± 2.6	37.0 ± 5.2	7.6 ± 0.0	42.8 ± 5.3	548.0 ± 79.2	100.0 ± 0.0
Week 6	138.9 ± 1.3	4.0 ± 0.3	98.0 ± 1.0	1.6 ± 0.2	15.3 ± 2.1	9.2 ± 0.7	569.0 ± 89.8	13.0 ± 0.2	44.7 ± 5.5	15.3 ± 0.6	36.3 ± 3.1	7.5 ± 0.0	48.7 ± 1.5	561.3 ± 53.2	100.0 ± 0.0
Week 8	140.0 ± 1.6	4.0 ± 0.2	99.5 ± 2.4	1.7 ± 0.0	14.1 ± 2.2	9.5 ± 1.0	587.3 ± 106.0	12.8 ± 0.1	51.6 ± 6.0	15.0 ± 1.0	34.0 ± 2.6	7.5 ± 0.0	47.9 ± 2.7	583.0 ± 9.5	100.0 ± 0.0
Week 10	138.7 ± 1.9	4.1 ± 0.1	98.9 ± 1.3	1.8 ± 0.2	13.7 ± 2.6	9.6 ± 1.0	578.0 ± 95.3	12.5 ± 0.3	44.5 ± 9.5	16.0 ± 1.7	33.7 ± 4.5	7.6 ± 0.0	44.5 ± 1.5	561.0 ± 41.7	100.0 ± 0.0
Week 12	137.7 ± 1.6	4.3 ± 0.0	99.7 ± 0.9	1.9 ± 0.2	13.1 ± 3.2	9.2 ± 1.0	551.0 ± 61.9	12.8 ± 0.2	42.2 ± 9.2	16.7 ± 3.1	30.7 ± 4.2	7.5 ± 0.1	51.4 ± 9.4	577.7 ± 27.8	100.0 ± 0.0

Note.– Cr = creatinine, WBC = white blood cell, Hgb = hemoglobin, PT = prothrombin time, PTT = partial thromboplastin time, AST = aspartate aminotransferase, ALT = alanine aminotransferase, pCO<sub>2</sub> = partial pressure of carbon dioxide, pO<sub>2</sub> = partial pressure of oxygen, SO<sub>2</sub> = saturation of oxygen in arterial blood