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**Supporting information for article:**

**Towards high spatial resolution tissue-equivalent dosimetry for  
microbeam radiation therapy using organic semiconductors**

**Jessie A. Posar, Matthew Large, Saree Alnaghy, Jason R. Paino, Duncan J.  
Butler, Matthew J. Griffith, Sean Hood, Michael L. F. Lerch, Anatoly Rosenfeld,  
Paul J. Sellin, Susanna Guatelli and Marco Petasecca**

**S1. Geant4 simulation optical properties**

The optical physics process in *Geant4* requires the user to define the optical properties of the material including the number of photons produced in the scintillator per MeV of incident energy as shown in Table S1.

**Table S1** Optical properties of layered geometry defined within the *Geant4* simulation.

Property	PEN <sup>a,b</sup>	Epoxy <sup>c</sup>	OPD <sup>d,e</sup>	PMMA <sup>f</sup>
Refractive index	1.64	1.54	1.66	1.47
Absorption length (cm)	4	40	1.2x10 <sup>5</sup>	6.4x10 <sup>4</sup>
Optical bandgap (eV)	2.92	4.70	1.90	0.73
Scintillation (Y/N)	Y	N	N	N
Yield (photons/MeV)	10,500	-	-	-
Fast time constant (ns)	34,91	-	-	-

<sup>a</sup>(Wetzel *et al.*, 2016), <sup>b</sup>(Bilki *et al.*, 2020), <sup>c</sup>(Durmus *et al.*, 2011), <sup>d</sup>(Hrostea *et al.*, 2018), <sup>e</sup>(Stelling *et al.*, 2017), <sup>f</sup>(Kayaku Advanced Materials, 2020).