Figure_1	Electrochemical characterisation of collagen-POc matrix biosensor and bacterial detection	(a), CV voltammogram of bare gold working electrode surface, POc and collagen-POc matrix. The CV was cycled from -0.6 V to +0.6 at a scan rate of 100 mv/s in 10 mM [Fe(CN)6]3-/4- in 10 mM PBS, pH 7.2; (b), Nyquist plot of bare, POc and POc + 100 µg/mL collagen. EIS were carried out in 10 mM [Fe(CN)6]3-/4- in 10 mM PBS, pH 7.2, from 0.1Hz to 5 kHz. (c), Rct before and after analyte incubation with uninduced E. coli or E. coli expressing YadA. Incubation was for 30 min; (d), fluorescence assay based on sfGFP – expressing E. coli attaching to wells coated with collagen.
Figure_2	Electrochemical characterisation of octopamine concentration	(a), Nyquist plot of bare, PB buffer and a range of POc concentrations, 1, 2.5, 5, 10, 25, 100, and 250 mM. All Nyquist profiles derived from EIS measurements in 10 mM [Fe(CN)6]3-/4- in 10 mM PBS, pH 7.2, coupled to a potentiostat. EIS was recorded at 0 V over a frequency range of +0.1 Hz to +5 kHz, with a modulation voltage of +10 mV; (b), cyclic voltammogram of bare gold working electrode surface, PB buffer, and a range of POc concentrations, 1, 2.5, 5, 10, 25, 100 and 250 mM POc. The CV was cycled from -0.6 V to +0.6 at a scan rate of 100 mv/s in 10 mM [Fe(CN)6]3-/4- in 10 mM PBS, pH 7.2
Figure_3	Electrochemical characterisation of EDC/Sulfo-NHS using two different protocols	Direct immobilisation of 100 µg/mL collagen to 5 mM POc coated SPGEs was tested with two different protocols. One, collagen dissolved in acetic acid prior to the addition to the EDC/Sulfo-NHS solution in MES buffer; two, collagen was first dissolved in MES buffer to which later EDC/Sulfo-NHS was added. (a) Nyquist plot representation. All Nyquist profiles derived from EIS measurements in 10 mM [Fe(CN)6]3-/4- in 10 mM PBS, pH 7.2, coupled to a potentiostat. EIS was recorded at 0 V over a frequency range of +0.1 Hz to +5 kHz, with a modulation voltage of +10 mV; (b), the CV was cycled from -0.6 V to +0.6 at a scan rate of 100 mv/s in 10 mM [Fe(CN)6]3-/4- in 10 mM PBS, pH 7.2
Figure_4	Electrochemical characterisation of a different range of collagen concentrations and validation of collagen direct attachment to	(a), all Nyquist profiles derived from EIS measurements were in 10 mM [Fe(CN)6]3-/4- in 10 mM PBS, pH 7.2. EIS was recorded at 0 V over a frequency range of +0.1 Hz to +5 kHz, with a modulation voltage of +10 mV; (b), CVs were cycled from -0.6 V to +0.6 at a scan rate of 100 mv/s in 10 mM [Fe(CN)6]3-/4- in 10 mM PBS, pH 7.2;

	POc through on-sensor blotting	
Figure_5	Electrochemical characterisation of different incubation times.	Different incubation times were assessed for 5, 15, 30, 45, and 60 min incubation. The sensors were left incubating with 8x10^6 cfu in 10 µl sample of YadA induced E.coli. All Nyquist profiles derived from EIS measurements in 10 mM [Fe(CN)6]3-/4- in 10 mM PBS, pH 7.2 and were recorded at 0 V over a frequency range of +0.1 Hz to +5 kHz, with a modulation voltage of +10 mV
Figure_6	Electrochemical binding measurements for blocked and non-blocked biosensors	1.5 mg/mL BSA, 1.5 mg/mL casein and non-blocked biosensor were tested with 8x10^6 cfu in 10 µL sample for E. coli expressing YadA or uninduced E. coli.
Figure_7	Electrochemical binding measurements	Rct before and after analyte incubation with uninduced E. coli or E. coli expressing YadA for a range of bacteria from 8x102 to 8x107 cfu in 10 µL.
Figure_S1	Electropolymerisation profiles of POc and collagen-POc matrix	(a), electropolymerisation of 2.5 mM octopamine in 10 mM PB, pH 7.2. The electrode was cycled from +0.0 V to +1.6 V for 2 cycles at a scan rate of 100 mV/s; (b), electropolymerisation of 2.5 mM octopamine + 100 µg/ml of collagen in 10 mM PB, pH 7.2. The electrode was cycled from +0.0 V to +1.6 V for 2 cycles at a scan rate of 100 mV/s.
Figure_S2	Electropolymerisation profiles for a range of POc concentrations.	Electropolymerisation of different concentrations of octopamine in 10 mM PB, pH 7.2 namely: 1, 2.5, 5, 10, 25, 100 and 250 mM. The electrode was cycled from +0.0 V to +1.6 V for 2 cycles at a scan rate of 100 mV/s. (a), only displays the first cycle of the electropolymerisation, whereas (b) only displays the second cycle of the electropolymerisation.
Figure_S3	Electrochemical binding measurements over POc surface in absence of collagen	5 mM octopamine was electropolymerised over CX2220AT SPGEs from Metrohm DropSens employing Autolab type III Fra II potentiostat and NOVA (2.1.4.) software from Metrohm Autolab B.V. (The Netherlands)). Rct before and after analyte incubation with uninduced E. coli or E. coli expressing YadA for 8x107 cfu in 10 µL.