

Fig S1

Caption : Contours in chamber cross section: The fluid velocity profile in the cell construct chamber with no fluid-distributing nets (A) reveals a well-developed flow at the entrance and exit of the chamber as illustrated by the velocity magnitude contours evenly distributed in the chamber cross-section. When one fluid-distributing net (B) is incorporated (1 mm upstream to the cell construct), the flow is interrupted and transforms to undeveloped flow, as illustrated by the absence of contours at the chamber cross section (at the entrance to the cellular construct), and then returns to a developed profile at the exit. When two fluid-distributing nets (C) are incorporated (1 mm upstream and downstream to the cell construct), the flow is interrupted and transforms to undeveloped flow, while the second fluid distributing net prevents it from regaining its developed velocity profile at the exit and no contours are present at both cross-sections of the chamber.

Fig S2

Caption : Supplementary data- cross-sectional view of streamlines in the perfusion bioreactor: The velocity profile in the perfusion chamber (A) without distributing flow nets, (B) with one distributing flow net downstream to cellular construct and (C) with two distributing flow nets downstream and upstream to the cellular construct is illustrated by streamlines. With no nets the streamlines are curved due to the direction of the flow going from the inlet to the outlet. With one net the flow is forced to be evenly distributed but the streamline reveals that the flow is regaining the developed form and converges as the flow get distant from the net. With two nets the streamlines slightly converges after the first net but then the flow is forced back to the undeveloped form by the second.

Fig. S1

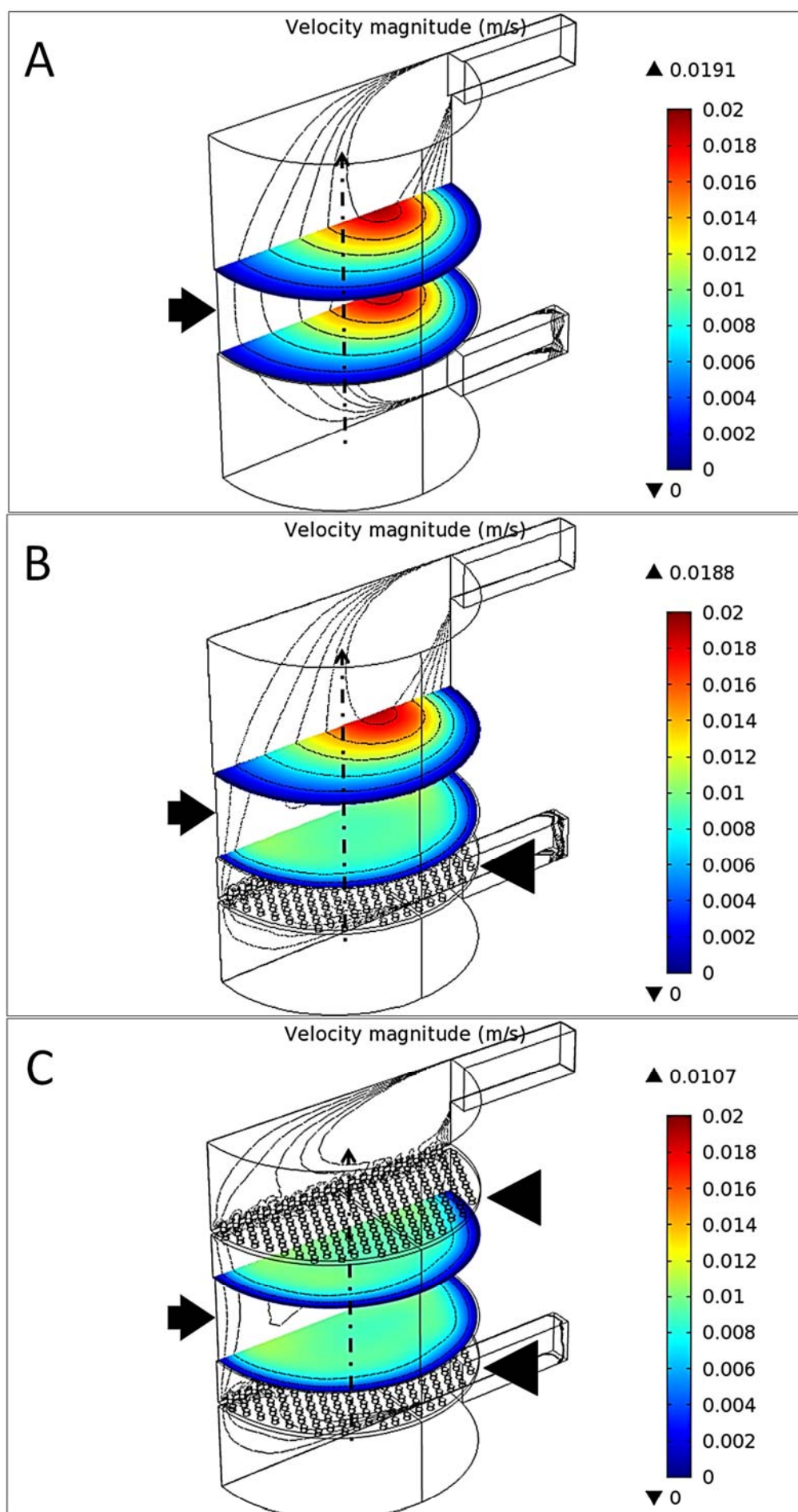


Fig. S2

