$FMMVM#BWJNBZPS NBZ OPU 1SPEVDF & (MVDP
&OWJSPONFOUBM 0SJHJO &¶ " $BTF 4UVEZ

0DWHULDOV DQG 0HWKRGV

H LVRODWHG EDFWHULDO FRORQLHV FDWLRQ JRI FOHDU]RQHV
*UDPdV LRGLQH VROXWLRQ ZHUH VHOHFWHG DV FHOOXODVH SURGXFHUV =RQH I
&0& K\GURO\VLV RI WKH LVRODWHV DUH JLYHQ LQ WKH 7DEOH $PRQJ WKHP
LVRODWHV JDYH WKH PD[LPXP UDWLR RI FOHDU]RQH GLDPHWHU WR FRORQ\
GLDPHWHU RQ WKH &0& DJDU SODWH DV FRPSDUHG WR SODWHV FXOWXUHG ZLWK
WKH RWKHU VWUDLQV HG RI FHOOXODVH SURGXFHUV
)RU FRQ}UPLQJ WKHLU FHOOXORO\WLF DFWLYLW\ DOO WKHVH LVRODWHV ZHUH WKHQ
DQDO\]HG IRU VHFRQGDU\ VFUHHQLQJ E\ &0&DVH DFWLYLW\ DVVD\

6LWHV	6DPSOH QR	7RWDO QR LVRODWHV	'DEHOHG DV
%LRJDV SODQW HIIOXHQW			% %
'DLU\ HIIOXHQW			' '

7DEOH 6LWHV VHOHFWHG IRU VDPSOH FROOHFWLRQ WR LGHQWLI\ FHOOXODVH SURGXFHUV

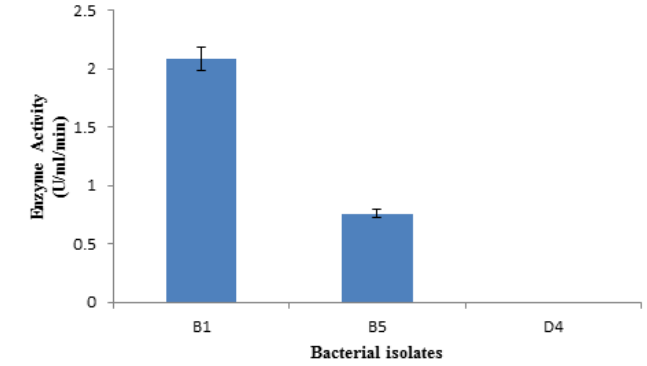
6 QR	&HOO QDPH	&RORQ\ GLDPHWHU FP PP	=RQH GLDPHWHU FP PP	5DWLR]Q PP
	%			
	%			

U•S#

)LQDOO\ LGHQWLILHG EDFWHULD	%DFLOOXV VS	%DFLOOXV VS	%DFLOOXV VS

UHHFHOOXORO\WLF EDFWHULD L%DFLOOXV DP\ORO
VXEWLOLVFLOOXV DP\ORDQGDELDFLXQWXEWLOLV
EDVHG RQ SK\ORJHQHWLF DQDO\VLV RI 6 U'1$ VHTXHQFH

'HWHUPLQDWLRQ RI • JOXFRVLGDVH DFWLYLW DVVD\
ZDV FDUULHG RXW ZLWK FXOWXUH VXSHUQDWDQW RI WKUHH EDFWHULDO LVROD
KDYLQJ KLJKHU &0&DVH DFWLYLW\ E\ XVLQJ P0 S13* DV VXEVWUDWH
$VHWWHUPLQDWLQJ WKH UHDFWLRQ DEVRUEDQFH ZDV WDNHQ DW QP XVLQJ
\SHFWURSKRWRPHWHU $PRQJ WKH WKUHH VHOHFWHG FHOOXORO\WLF EDFWHUL
VWUDLQV KRZHG KLJKHU DEVRUEDQFH WKXV LW FDQ SURGXFH •
JOXFRVLGDVH WKHQFH GHQHGHQ HJDWLYH UHVXOW WKXV LW GRHV QRW KDYH •
JOXFRVLGDVH DFWLYLW\ VKRZLQJ LQ)LJXUH :LWKLQ WKHVH WZR VWUDLQ %
SURGXFH KLJKHU DPRXQW RI • JOXFRVLGDVH)LJXUH WKDQ %



)LJXUH RPSDULVRQ RI • JOXFRV% GH' DFWLYLW\ RI %
LVRODWHV 1XPEHU RI LQGHSHQGHQW H[SHULPHQWV Q ª