

3ODQW EDVHG)RRGV)RU &KURQLF ,QIODPPDWL
 &RPELQHG XVH RI 7RPDWR DQG 2OLYH 2LO IDFLOLWDWH
 5R\ 6HEDVWL DQ 0' 9DQSLW 6H QDPLQ\ OHGLFLQH DQG &RPPX
 7H[D V 7HFK 8QLYHUVLW\ +HDOWK 6FLHQFH V &HQWHU

+ < 327 + (6, 6

5HYLHZ DQG SURYLGH HYLGHQFH ROLLOWDNHRI SODQW EDVHG
 IRRGV GHFUHDVHV WKH SURJUHVVLRQ LQIOPPDWRU\ LQ
 GLVHDVHV ZLWK PRUH IRFXV WR GJYFXVWKH EHOHJLW
 O\FRSHQH DQG ROHRFDQWKDO LQFUKURODEPDWRU\ LQH
 FRQWURO

%%&.*5281'

6WXGLHV KDYH GHPRQVWUDWHG FRQVXPLQJ SODQW EDVHG GLHW^a% WR WKH QXFQH XV WKDW LQWHUDFW ZLWK WKH
 LPSURYHV KH DOWK WKURXJK LWV FRQVWLWXH QWV DW WKH PLFUD
 DQG PDFURPROHFXODU OHYHO &KURQLF LQIOPPDWRU\
 FRQGLWLRQV OLNH FDUGLRYDVFХODU GHJHQHUDWLYH GLVHDVHV
 FDQFHU GLDEHWHV HWF OHDG WR SRO\SKDUPDF\ DQG SRRU
 TXDOLW\ RI OLIH &RQ

5 (6 / 76

3ODQW EDVHG)RRGV)RU &KURQLF ,QIODPPDWL
 FRQWULEXWH WR DQWLQJ LQIOPPDWRU\ LQ
 SURFQDQDEPDWRU\ LQH[ISUHVYB QVD QXFOSR\\$DQH D YHFRSHQH DUH OLSLG
 OLSR\JHQDVH QLWULF R\LGH BYKQWRBWHIRL FDDQG/ ZLWRKNIDQ HDQWLR[LGDQW
 DFWL YDWLQJ QXFQH DU IDFWRID QW\\$ SLQD I\% D PDQDG/ RPWW &URQHUWLHV %\ LQWUDP
 FDVFDGHV O\FRSHQH LQIOXHQFH JHQH HSUHV
 WUDQVODWLRQ DQG EORFN WKH WUDQVORFDWL

', 6 & 866 , 21

/FRSHQH D FDURWHQRLG ZLWK D SRZHUIXO QD
 RQ LSKHQQAR SWRDSQHJ FWD WRSHEHQRQW LQ PDQ\ IUXLW
 QD\ RQWLRQ D\ DQH JU PHORQ SLQH
 FDVFDGHV O\FRSHQH LQIOXHQFH JHQH HSUHV
 WUDQVODWLRQ DQG EORFN WKH WUDQVORFDWL
 QD\% WR WKH QXFQH XV WKDW LQWHUDFW ZLWK WKH
 SDWKZDI WR LQKLELW WKH GRZQVWUHDP SUR
 LQIOPPDWRU\ F\WRNLQHV LQWHUOHXNLQ RU
 2OLYH RLO ULFK ZLWK SKHQROLF ROHRFDQWK
 QRQVWHURLGDO DQWL LQIOPPDWRU\ FRPSRXQ
 RWKHU FRRNLQJ RLOV 20HRFDQWKDO KDV EH
 H[KLELW YDULRXV PRGHV RI DFWLRQ LQ U
 LQIOPPDWRU\ UHODWHG GLVHDVH LQFOXGLQJ
 GLVHDVH QHXURGHJHQHUDWLYH GLVHDVH DQG

'DLO\ LQWDNHRI PJ O\FRSHQH
 RU PJ RI ROHRFDQWKDO ZDV FRPSDUDEOH WR RI
 ,EXSURIHQSDQH

& 21 & / 86 , 21

0 (7 + 2 ' 6



HIIHFVV



3HFDQV PJ J
 ORULQJD PJ J

KHDOWK SWUXFWXUHV ELRDYDLODELOLW\ DQG HYLGHQFH RI SURWHFWLYH HIIHFVV DJDLQVW FKUR
 GRL DUV .DXOPDQ\\$ %RKQ 7 &DURWHQRLGV LQT V z@Q7 p Cmrii CB dHaV0 YDQ 6WHHQZLMN+3 %

61VWHFDWLF 5HYLHZ RI WKH /LWHUDWXUH DROHFXOHV 6HS
 308.' 308.
 'HYDUDM 6 ODWKXU 6 %DVXS \$XQJ ++ 9DXX 97 0H[HUV 6 -LDODO. \$GRVH UHVSRVH VVXG1 RQ W
 O\FRSHQH VXS\$OHPHQWDWLQJ RQ ELRPDUNHUV RI R\LGDWLYH VVUHV VV 308.' 308.
 &LFHODUH 6 3DUNLQVRO XFDV /LVD .HDVW 5XVVFHO 20HRFDQWKDO \$1DWXUDOOV 2F