

:p/ 1\=I*Ô@H@q2 :>DÉA 2i)í?i>Ã;60•(Ž
 ,QIRUPDWLRQ)RUPDWLRQ W-783 URIHVVLQR &RX

B.0; * \ Ÿ % DVLF , QIRUPDWLRQ			
B.0; =0 &RXUVH	Ä]· &KLAHWH!•LIFV¶e		
-6 &UHGLWV	U“-O 6SULQJ	-& 7HDFKLQJ	+RXUV Ä -6 B.&Ä
0B.-O 6HPHVW	CJ}“B. 3URJUDP	-VD-O &URVV VHPHVW	D 6SDQQLQJ Z-YHU HWH“PHÄW“HUCÄ Ä
B.0;2« » &RXUVH	CJB 6SHFLDOLJHG	B.0; IQ &RXUVH	Š+X \$OO JUDGXDWHV 6WXGHQWV
B.B @0 ,QVWUXFWLRQ /DQJXDJH	U“ -O 6SULQJ	VD-O &URVV VHPHVW	D 6SDQQLQJ Z-YHU HWH“PHÄW“HUCÄ Ä
@52« » *UDGH	1y\1f /HWWH	U“ -O 6SULQJ	D 6SDQQLQJ Z-YHU HWH“PHÄW“HUCÄ Ä
0B.L'3+ 6FKRRO	U“ -O 6SULQJ	VD-O &URVV VHPHVW	D 6SDQQLQJ Z-YHU HWH“PHÄW“HUCÄ Ä
pŽ -0 6XEMHF	U“ -O 6SULQJ	VD-O &URVV VHPHVW	D 6SDQQLQJ Z-YHU HWH“PHÄW“HUCÄ Ä
COCS %8 3HUVRQ LQ	= 1DPH ' , ' ... } 6FKRRO	€É0 -> 0; -L'	6„3+ é? (PDLO [K]KRX#VMWX HGX FQ
B.0;™ ... Ÿ ([WHQGHG , QIRUPDWLRQ			

Ä 6lä 2F B.0; Ê } Ä % — 7 Ä k?± % — mé Ä x B.0; 1y x = A ¾ ± ÄÄ
 &B' ä!5_ ,o ä!5_ ,äl HÐ*e 9C Z!&ùG?o+ MP!5_ ^EI 4o*V" 1•6.E÷MÖ#
 .a1 Ef4o*V" !5_ 1•6.o,ñ1 9 G^U!5_ 1•6."Ð+TEf&ùG?#;77.Ä <.R!Lo eŽF?pl 'OSNPo³
 o³/o³ 5y_ p"1•6.EfgŸ_ "Ð+To 2Š!Š ...9 v!5_ D0 MPEfZÖd &Š,ä" 1J,äQyo "Ð+T1 9 ýdc
 ä'P/&1 .aC Z'HÐ*e 9&ùG?o ä4o*V" ;4N2v" ;5yOü" !5_ 1•6. 94.3•EfMü# /&HÐ*e1•

B.0;1° û
]·
 &RXUVH 'HVFULSWLRQ

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B.0; k5 >AØAê
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ÄN« >].08\$ Ê6+BB' È"r Eilõ Ä Ä
&KDSWHU 2YHUYLHZ FUHGLW KRXUV
7KH VWDWXV FXUUHQW VLWXDWLFRQDGLQGXIVMORSPH
7KH PDLQ UHVHDUFK FRQWHQWV VJLWHDVLDQGHDDVH
PDQXIDFWXULQJ XQGHU WKH PRGHWXULQJWHUQH W LC
2EMHFWLYHV WDVNV DQG UHTXLUHPHQWV RI WKH FR

&KDSWHU (YROXWLRQ RI SURGXFWLFRQPRSWDQG PRGH
KRXUV
(YROXWLRQ RI SURGXFWLFRQPRSWDQGLQJ IRQGXVW
(YROXWLRQ RI SURGXFWLFRQPRSWDQGLQJ IRQGXVW
&RPSXWHU LQWHJUDWHG PDQXIDFWXULQJ
&RQFXUUHQW (QJLQHHULQJ
/HDQ SURGXFWLRQ
\$JLOH PDQXIDFWXULQJ
0DVV &XVWRPL]DWLRQ
,QGXVWU\ LQWHOOLJHQW PDQXIDFWXULQJ GLJLW

&KDSWHU 'LJLWDO PDQXIDFWXULQJWHFKQRORJHGLWWK
7KH FRQFHSW DQG FRQQRWDWLRQ RI GLJLWDO PDQXI
7KH PHWKRGORJ\ IRU HQWHUSULWLVWR LPSOHPHQW
7HFKQRORJ\ \V\WHP RI WKH GLJLWDO PDQXIDFWXULQ
.H\ WHFKQRORJLHV
,QWHJUDWHG SURGXFW LQIRUPDWLRQ PRGHOLQJ D
6\WHP VLPXODWLRQ
2SWLPL]DWLRQ WHFKQRORJ\
\$,

% - W4â
Ä (QJOLVK
6\OODEXV

&KDSWHU 7KH GLH DQG PROG LQWHOOLJHQWOBSSVHQW
KRXUV
0RGHUQ GHVLJQ PHWKRGVRIHOOLJHQW &\$'
6RIWZDUH HQJLQHHULQJ DQG \V\WHP GHYHORS PHQW
,QWHOOLJHQW GHVLJQ WHFKQRORJ\ DQG \V\WHP RI L
&RYHU GLH LQWHOOLJHQW GHVLJQ WHFKQRORJ\ DQG
)RUJLQJ GLH LQWHOOLJHQW GHVLJQ WHFKQRORJ\ DQ
&ORXG SODWIRUP VWDQGDUG SDUWV OLEUDU\ &\$' V\V
.H\ FRPPRQ TXHVWLRQV DQG GLVFXVLRQ

&KDSWHU &RPSXWHU DLGHG SURFHVV SODQLQJWDBXS
'HVFULSWLRQ DQG WUDQVIHU RI SURGXFWLFRQPRSWD
7KH RU\ DQG PHWKRG RI SURFHVV SODQLQJ GHFLVLR
3ULQFLSOH DQG \V\WHPDWLF PHWKRG RI FRPSXWHU
.QRZOHGJH EDVHG IOH[LEOH SURGXFWLRQ VFKHGXS

&KDSWHU 1XPHULFDO FRQWURO PDEGLQLEWHQGLWLRQV
&1& PDFKLQLQJ WHFKQRORJ\ DQG WKH ZRURQFHKRS RI G
0ROG 1& PDFKLQLQJUDFWLRQDQGSSB3 1&QWHSURVHR
*HRPHWULF DQG SK\VLFDO VLPXODWLRQDQG RSWLPL
0ROG PDQXIDFWXULQJ FRVW DVVHVPHQW DQG UHVRX
0DFKLQH WRRO ZRUNVKRS IDFWRUDQGIRUFDWLRQLFRV
PDQDJHPHQW

&KDSWHU &XUULFXOXP SUDFWLFHKBXDFDU\ DQG GLVFX
&XUULFXOXP SUSHUV SUHVHQWDWLRQ GLVFXVLRQ D
9LVLW &KLQD LQWHUQDWLRQDO GLH[SRG PROG WHFK

<p>B.0;?±"r ÄJ·Ä 5HTXLUHP</p>	<p>ÄB.0;63 h é ? Ä63 h 7 ö1y x = A ¾ ‡ Ä ?±"rFJE÷\B.0;,'-•ÄAØAê>-(£0.DÎD%È¼ Q§ ‡F a7-fFP,'*\²%Ä p*6AêÄ°_f3+¼3+5 Î)àé# Èjp»-(£B.NÈ.DO:¼3+5 0 f;ŠÎ,'*pÄ @5 Ö* B.2AØAê CNÉAê .</p>
<p>B.0;?±"r Ä(QJOÄLVK 5HTXLUHP</p>	<p>ÄN«>J·08\$ È6+B B' È"r Eilõ Ä Ä , W LV UHTXLUHG WR PDVWHUVWVWHR HD CEG W LVFW HFR Q PHWKRGRIGLHDQG PROG GLJLWDO WLQHV WOVXIG\H QVL VFDX UHODWHG VFLHQWLILF UHVHDUËK S VDFWLGFR RQ QVWV RFR VFLHQFH DQG WHFKQRORJ\ VVWHPHG HYHORSPHQW *UDGHV FODVVDFWVWLQGDQIS GLVVHUWDWLRQ</p>
<p>B.0;Ct\$Ä ÄJ·Ä 5HVRXUFH</p>	<p>Ä%€Ä%òÄ5•1 Ct É1y Ä Ä ÉQ§ ‡F fFP °_É F- J*(x/n É)à Q\$AiÄÑ fFP*6Aê>°_É :#§ ÖFW-*(x/n &RPSXWHU \$LGHG 'HVLJQ \$GYDQFHG 0DQXIDFWXULQJ 7HFKQRORJ\ ,QWHOOLJHQW 0DQXIDFWXULQJ 7HFKQRORJ\ &RPSXWHU ,QWHJUDWHG 0DQXIDFWXULQJ</p>
<p>B.0;Ct\$Ä Ä(QJOÄLVK 5HVRXUFH</p>	<p>ÄN«>J·08\$ ÈB' È"r Eilõ Ä Ä 'LH GLJLWDO PDQXIDFWXULQJ WHFKQRORJ\ &KHPLFDO ,C 0RGHUQ GLH DQG PDQXIDFWXULQJ WHFKQRORJ\ -LDR 7RQJUH3UHVV &RPSXWHU \$LGHG 'HVLJQ \$GYDQFHG 0DQXIDFWXULQJ 7HFKQRORJ\ ,QWHOOLJHQW 0DQXIDFWXULQJ 7HFKQRORJ\ &RPSXWHU ,QWHJUDWHG 0DQXIDFWXULQJ</p>
<p>7# 1RWH</p>	