

6XVWDLQDEOH &DWDO\WV 'HYHORSPHQW IRU 3

2OVHQ /LO\

'HSDUWPHQW RI &KHPLFDO (QJLQHHULQJ /RQGRQ 6RXWK %DQN 8QL

'(6&5,37,21

&DWDO\WV SOD\ D SLYRWDO UROH LQ SHWURFKHPLFDO SURFHVVHV L
LQFUHDVLRQ WKH HIILFLHQF\ RI FKHPDFDO UHDFWLRQV DQG HQDEOLQJ W
SURGXFWLRQ RI GHVLUHG SURGXFWV ZLWK KHPSOHG JHVHQLILFD
FRQVXPSWLRQ 6XVWDLQDEOH FDWDO\WV GHYHORSPHQW XWVWDLQDEOH FU
DUHD RI UHVHDFK DQG LQQRYD\SSOLF\DWLRQV KROGV WKH SRWHQW
DFKLHYLQJ PRUH HQYLURQPHQWDOO\ IULHQGO\ DQG HFRQRPLFDOO\ YLDE
SURFHVVHV LQ WKH SHWURFKHPLFDO WHDPV DLF IUDEHZDUNHSDRXV

7KH VLJQLILFDQFH RI VXWDLQDEOH FDWDO\WV IRU
SHWURFKHPLFDOV

(PLVVLRQ UHGXFWLRQDEOH FDWDO\WV WHWURFKHPLFDOV IRU XWV
JUHHQKRXVH JDV HPLVVLRQV E\ HQDEOLQJ W\SHV LQGLQFHQW S
UHDFWLRQV 7KLV FDQ OHDG WR SRXODUW\GXHURXWVSWLRQV DQG
FRQVHTXHQWO\ UHGXFHSDUVERQV E\HGHQ\ VFLHQFH KDYH OHG WR

5HVRXUFH SHWURFKHPLFDO SURFHVVHV RIWHQ LQYROYH WKH
XVH RI ILQLWH UHVXUFHV VXFK D\LDW\DWDOV DQG LRUHURQV W\W
DV FDWDO\WV 6XVWDLQDEOH FDWDO\WV SDUWLQJ W\SHV FKHPLFDO
UHOLDQFH RQ WKHVH VDFUH PDWGLDSDUW\XQ\SDUPLQJ FRQXW\
HIILFLHQF\

: DVWH UHGXFWRQDEOH FDWDO\WV WSD\MLRQLYH WKH VXVWDLQD
SURGXFWLRQ RI XQZDQWHG E\ SURGXFW\DFHPLFDOV FRQWULEXWLQJ W
FOHDQHU DQG PRUH HIILFLHQW SURFHVVHV

&KDOOHQJHV LQ VXVWDLQDEOH SHWURFKHPLFDO GHYHORSPHQW

:KLOH SRMHQWLD\VEHQHLDQDEOH +FDWDO\WV WDLQDEOH FDWDO\WV
VXEVDQWLDQ WKHLU GHYHORSPHQWV LQJHQWZLLRQKRXWR\KDOOHQJHVSRXQ
&DWDO\WV GHVLUHGSDOHFDWDO\WV ZLWK VSHFLILF
SURSHUWLHV IRU GHVLUHG UHDFWLRQV DQD\LDWLRQV SOD\W FUHTXL
GHHS XQGHUVWDQGLQJ RI FKHPLVWUHD\WLRQV DQFOLHQFH WKHGFBD\FW
NLQHWLQV

&DWDO\WV &DWDO\WV\PXVW PDLQWDLQSRK\HQWSDUPLQJLQDWDRQ UHDFWLR
VHOHFWLYLW\ RYHU H[WHQGHG SHWURKGSURGXFWLRQFRQRPLFDOO\ MURPEQ
\$FKLHYLQJ ORQJ WHUP VWDELOLW\ LQSDUPLQJLQDWDRQ\KDOOHQJHV

&RUUHVSROHQH\WV\ 'HSDUWPHQW RI &KHPLFDO (QJLQHHULQJ /RQGRQ 6RXWK %DQN
5HFHLYHG 0DQXVULSW\GRW\ (DVVLQHG 3UH 4& 1R \$5HYLHZH\$4 4& 1R
\$(& 5HYLVH\$XJ 0DQXVULSW 1RX\$Q\VK\$XJ 5 '2,
&LWDWLRQ 6XVWDLQDEOH &DWDO\WV 'HYHORSPHQW IRU 3HWURFKHPLFDO \$SSOLF
&RS\ULJKW /LO\ 2 7KLV LV DQ RSHQ DFFHVV DUWLFOH GLVWULEXWHG XQGHU WKH V
XQUHVWULFWHG XVH GLVWULEXWLRQ DQG UHSURGXFWLRQ LQ DQ\ PHGLXP SURYLGH

# & 21 & / 86, 21

6XVWDLQDEOH FDWDO\ VW GHYHORSRPHQW IRU SHWUREKHPLEDO DSSOLFDFW  
 LV D YLWDO DYHQXH IRU UHGXFLOJ WKH HOY LUROPHQWDO LPSDFW RI W  
 LQG XVWU\ ZKLOH PDLQWDLQLQJ LWV FUXFLDO UROH LQ VXSOLQJ HVVHC  
 SURGXFWV :KLOH FKDOOHQJHV VXFK DY FDWDO VW GHVLJQ FRPSOH[LW

and resource availability persist, recent advances in materials science, computational catalysis, and biocatalysis are propelling the field forward. The development and adoption of sustainable catalysts not only align with environmental and sustainability goals but also offer economic benefits by improving resource efficiency and process performance.